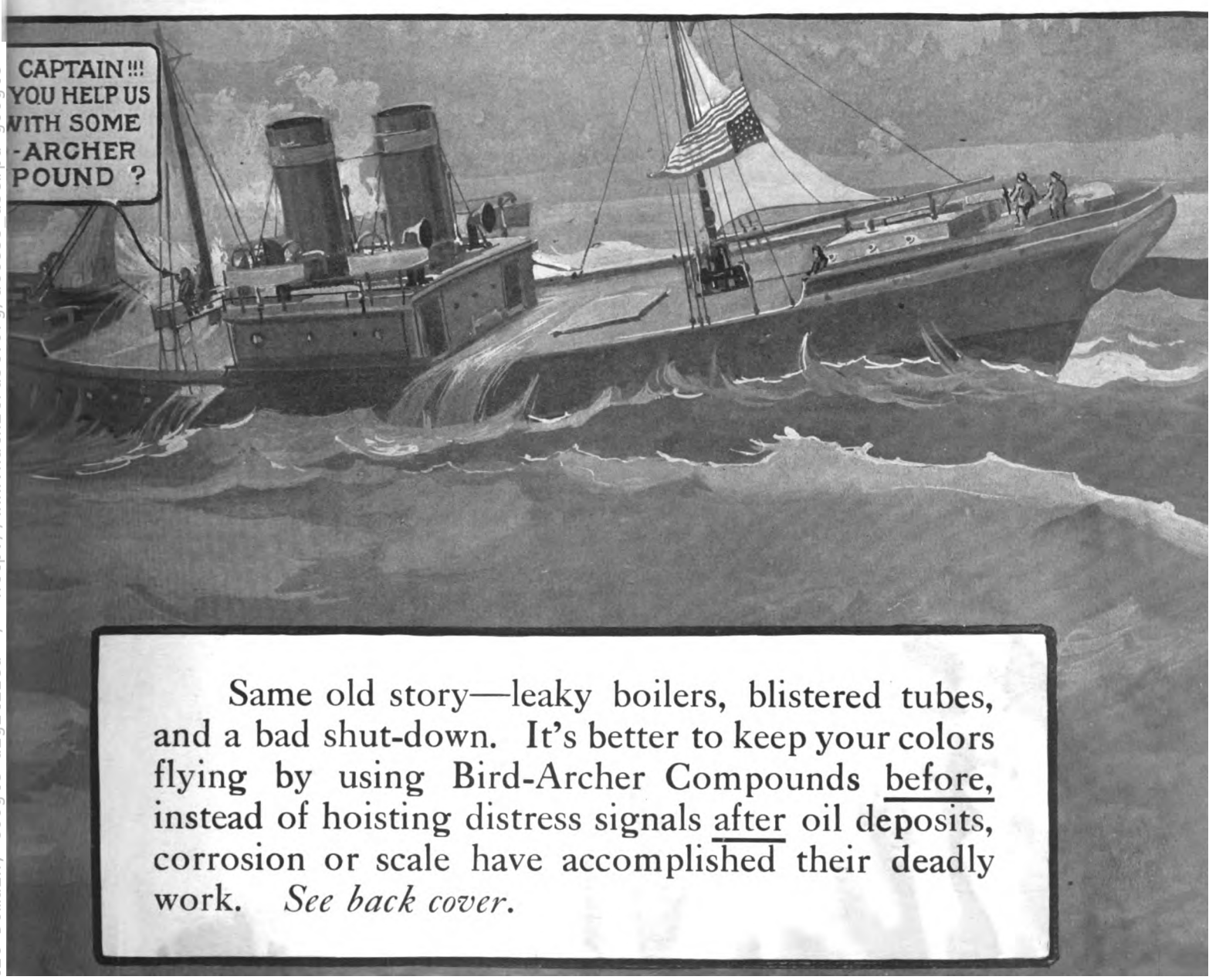
Vol. XIV JANUARY, 1909 No. 1
SUBSCRIPTION PRICE: United States, Canada and Mexico, per year $2.00; per copy 20 cents. Other Countries, per year $2.50

INTERNATIONAL MARINE ENGINEERING

LONDON
CHRISTOPHER STREET
FINSBURY SQUARE, E. C.

NEW YORK
WHITEHALL BUILDING
17 BATTERY PLACE



Same old story—leaky boilers, blistered tubes, and a bad shut-down. It's better to keep your colors flying by using Bird-Archer Compounds before, instead of hoisting distress signals after oil deposits, corrosion or scale have accomplished their deadly work. *See back cover.*

Generated on 2024-09-12 07:41 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

THE HYDE
Windlasses and Capstans
ARE THE MOST EFFICIENT

They have been selected for most of the vessels now building for the Navy Department, Revenue, Marine, Light-House Board, and United States Coast Survey.
They are being furnished for the majority of the highest-class Steamships, Merchant Vessels, and Yachts now building.

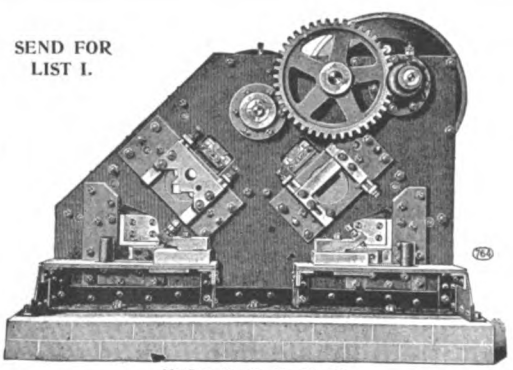
HYDE WINDLASS CO.
BATH - - - - MAINE

MARINE CLOCKS
HOWARD AND BOSTON MOVEMENTS
DIALS FROM 5 TO 12 INCHES

Steam Whistles
Pop Safety Valves
Pressure Gages
Revolution Counters
Blow-Off Valves

ASHTON VALVE COMPANY
BOSTON NEW YORK CHICAGO
63 CRUTCHED FRIARS, LONDON, E. C., ENGLAND

SEND FOR LIST I.



TYPE R. G. E. F. 33

JOHNS PATENT COMBINED BAR AND ANGLE CUTTER

A New Combination for shearing **Angles** and **Tees,** Square or on Mitre, as well as **Rounds, Squares** and **Flats,** up to largest sizes. Also built for shearing **Beams** and **Channels** up to 15", square or at 45°.
A machine that will be appreciated by all up-to-date Boilermakers for its time, labor and space saving qualities.
Unbreakable steel plate frame, semi-steel gears, working parts forgings.

Manufactured by **HENRY PELS & CO.**
90 WEST STREET - - - - - NEW YORK

Good OIL or GREASE CUPS ought to last a life time. They should have NO COMPLICATED PARTS and should be made of CAST (not spun) BRASS. The feed ought to be easily regulated and the flow steady and positive.

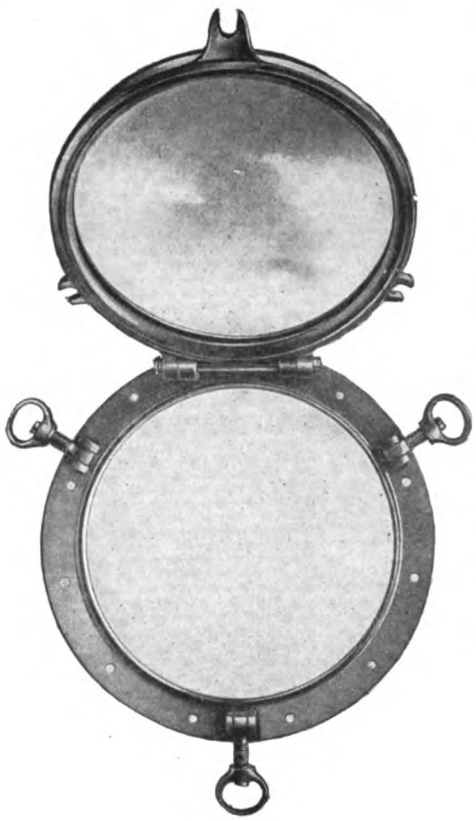
Lunkenheimer Oil and Grease Cups

are designed according to above specifications. Largest and most complete line made. Write for catalog.

The Lunkenheimer Company
Largest Manufacturers
of High Grade Engineering Specialties in the World
General Offices and Works, Cincinnati, Ohio, U. S. A.
New York, 66-68 Fulton St.
Branches: Chicago, 32 Dearborn St., Corner Lake.
London, S. E. 35 Great Dover St.

179

Generated on 2024-09-12 07:34 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



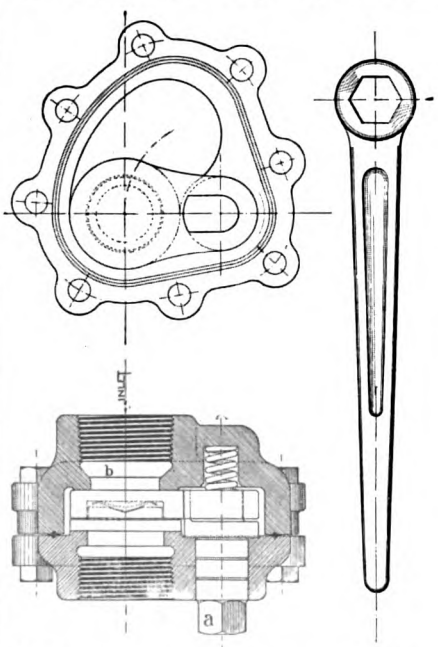
AIRPORTS suitable for *Battleships*
AIRPORTS suitable for *Torpedo Boats*
AIRPORTS suitable for *Revenue Cutters*
AIRPORTS suitable for *Ocean Steamers*
AIRPORTS suitable for *Freighters*
AIRPORTS suitable for *Yachts*
AIRPORTS suitable for *Lighthouse Boats*
AIRPORTS suitable for *Motor Boats*

Whenever a good Portlight is needed—and a good substantial Portlight, well designed and finished, is always needed—then specify our make. They give satisfaction and meet the requirements of Government Specifications.

We Are Also Manufacturers in Brass and Bronze of
MARINE HARDWARE, SHIPFITTINGS,
HINGES, FERRULES, HEX. NUTS, Etc.

THE DELAWARE MARINE SUPPLY MFG. CO.
WILMINGTON, DELAWARE

A PROBLEM SOLVED!



Our **Everlasting Blow-off Valve** will give you a continual and uninterrupted service. **This we guarantee.**

Each valve is tested in our own shops to 250-lb. steam pressure to the square inch and 1500 lb. hydraulically.

We are daily equipping coastwise steamships, sea-going tugs and transatlantic steamers.

Read the following words from a Marine Superintendent. Copy of the original letter sent on application.

"Mr. Frank Patterson, New York.

"My Dear Sir: In answer to your letter of the 28th inst. regarding the Everlasting Blow-off Valves. Would say that I do not think the marine people in New York will make any mistake in using the class of valve we are using on our harbor boats. They have been in service for about two years, and up to the present time we have not expended five cents for repairs. Before introducing this valve in our harbor boats it was a frequent occurrence to have these boats tied up almost every Sunday for repairs to leaky blow-off valves.

"These valves are just what is required for getting clear of the mud in the boiler without cutting out the seats or injuring the valve in any way. The decrease of labor on our harbor boats since introducing these valves makes me feel grateful for the EVERLASTING Blow-off Valve."

Patterson-Allen Engineering Co., Manufacturers
2 RECTOR STREET, NEW YORK
SCULLY STEEL & IRON CO., Chicago, Western Agents

Generated on 2024-09-12 07:36 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

Vol. XIV OCTOBER, 1909 No. 10
SUBSCRIPTION PRICE: United States, Canada and Mexico, per year $2.00; per copy 20 cents. Other Countries, per year $2.50

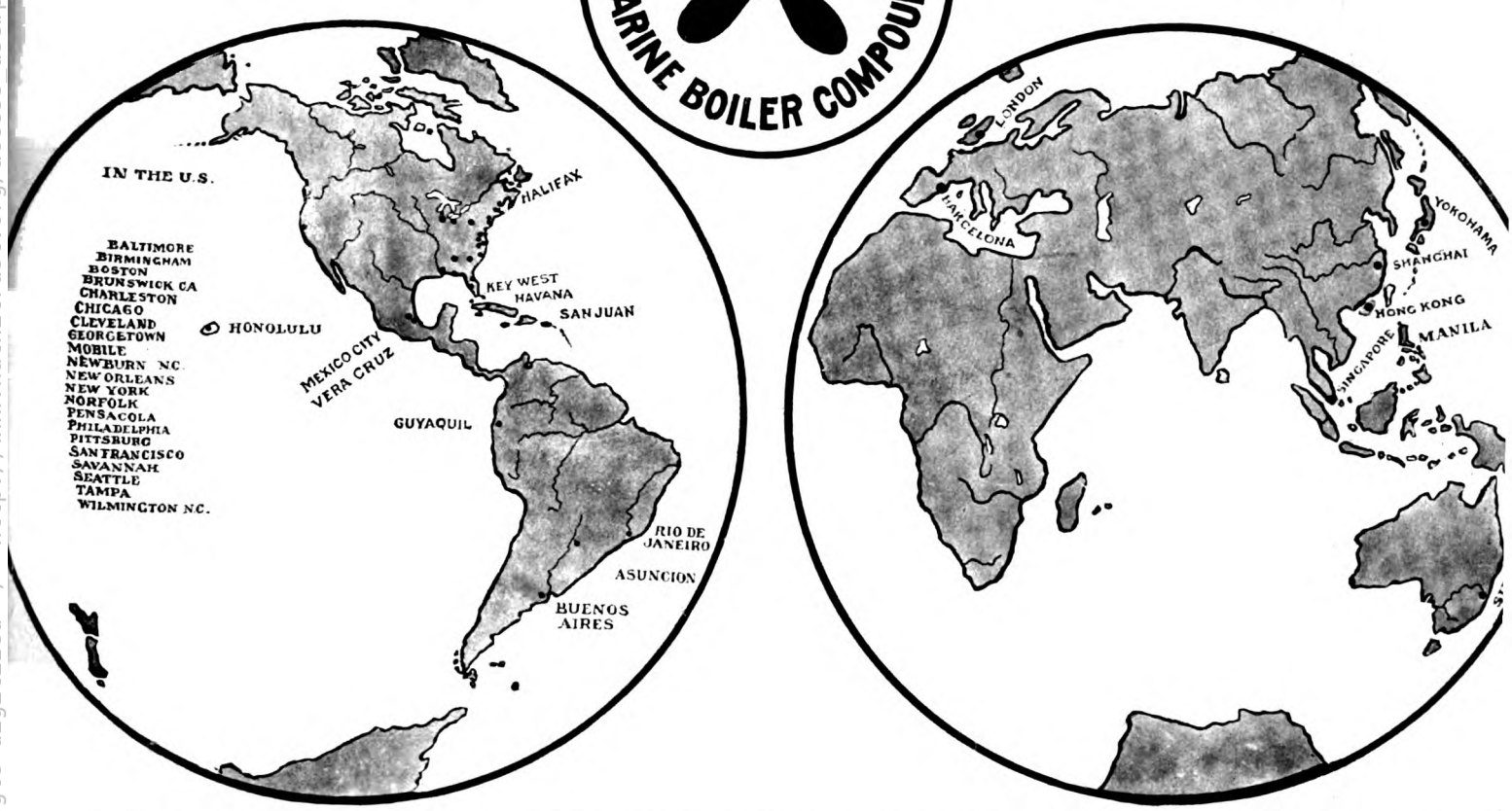
GENERAL LI
UNIV. OF
OCT 7

INTERNATIONAL MARINE ENGINEERING

LONDON
CHRISTOPHER STREET
FINSBURY SQUARE, E. C.

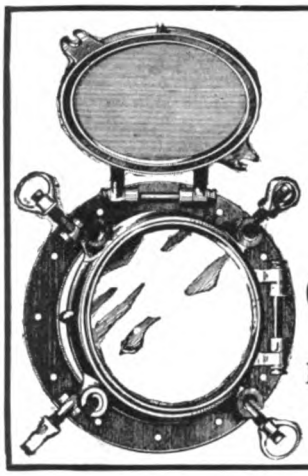
NEW YORK
WHITEHALL BUILDING
17 BATTERY PLACE

THE BIRD-ARCHER CO'S MARINE BOILER COMPOUNDS



The Sun never sets on The Bird-Archer Company's offices. Bird-Archer Compounds are used in every country where there are steam boilers.

Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



C F P Co
TRADE MARK

Portlights

IN

All Sizes and Styles

MANUFACTURED BY

C. F. Petersen Co.

29 So. Seventh St.

PHILADELPHIA, U.S.A.

Send for Price List

MARINE CLOCKS

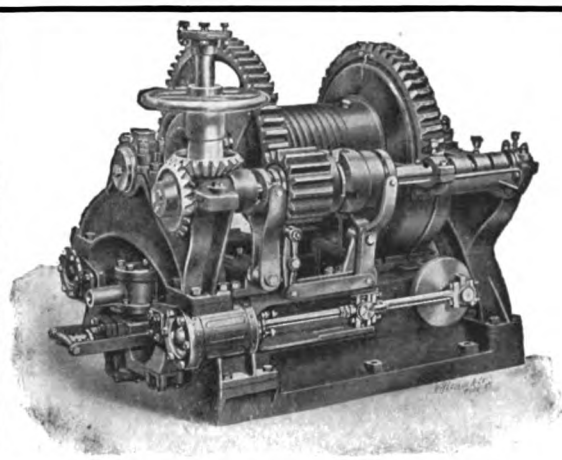
HOWARD AND BOSTON MOVEMENTS
DIALS FROM 5 TO 12 INCHES

Steam Whistles
Pop Safety Valves
Pressure Gages
Revolution Counters
Blow-Off Valves

ASHTON VALVE COMPANY

BOSTON NEW YORK CHICAGO

63 CRUTCHED FRIARS, LONDON, E. C., ENGLAND



The Hyde Steam Steering Engines

ARE

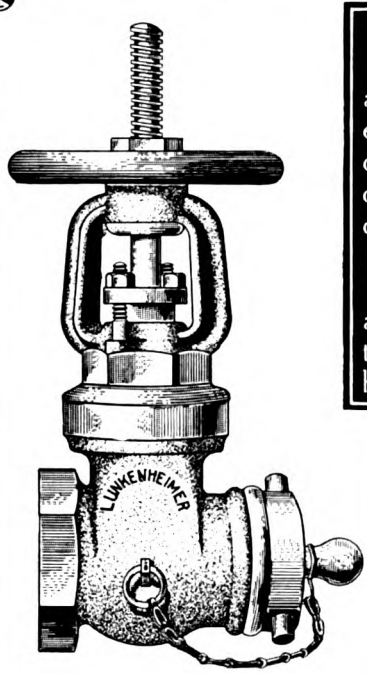
THE MOST EFFICIENT

MANUFACTURED BY

Hyde Windlass Company

BATH, MAINE

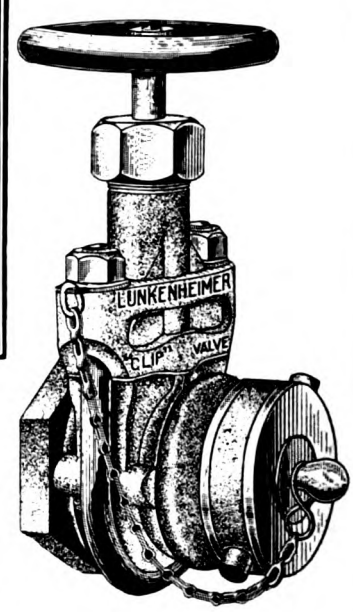
NEW YORK OFFICE, 17 STATE STREET



LUNKENHEIMER
HOSE GATE VALVES

are absolutely tight and reliable. They are easily and quickly operated, very strong and durable, and are made of the highest grade of materials. Either Brass or Iron Body can be had, and single or Siamese connection, in all standard sizes.

The Lunkenheimer Hose Valve line is a most complete one, and a catalog illustrating and describing the entire line will be sent free upon application.



The Lunkenheimer Company

Largest Manufacturers of High Grade Engineering Specialties in the World

General Offices and Works, Cincinnati, O., U. S. A.

Branches: New York, 66-68 Fulton Street
Chicago, 32 Dearborn St., Cor. Lake
London, S. E., 35 Great Dover Street

"MOST SUPPLY HOUSES SELL THEM YOURS CAN—IF THEY DONT OR WONT—TELL US."

63

Generated on 2024-09-12 07:32 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

International Marine Engineering

DECEMBER, 1909

CONTENTS

	PAGE
UNITED STATES BATTLESHIPS DELAWARE AND NORTH DAKOTA. Illustrated	465
DESIGN OF REVERSING ENGINES. E. M. Bragg. Illustrated	467
APPLICATION OF ELECTRICITY TO THE PROPULSION OF NAVAL VESSELS. W. L. R. Emmet. Illustrated	469
NEW SWEDISH AND DANISH SUBMERSIBLES. R. G. Skerrett. Illustrated	473
THE MARINE STEAM ENGINE INDICATOR.—V. Lieut. C. S. Root. Illustrated	475
THE MONITORIA. A. H. Haver. Illustrated	477
MACHINERY AND PIPING ARRANGEMENTS ON BOARD SHIP.—II. John M'Coll. Illustrated	479
THE NEW STEAMSHIP WILHELMINA. Illustrated	482
LLOYDS REGISTER OF SHIPPING: ANNUAL REPORT 1908–1909	486
PRACTICAL EXPERIENCES OF MARINE ENGINEERS:	
Repairing a Broken Crank Shaft at Sea. James Bell. Illustrated	487
The Emergency Man	487
Raising a Sunken Tug. Illustrated	488
Steam and Water Test of a 12-Inch Chime Whistle. Illustrated	488
Main Engine Repairs, Under Way. Lieut. E. C. Kalbfus. Illustrated	488
SEVENTEENTH ANNUAL MEETING OF THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS	491
THE MARINE POLAR MOTOR. Hugo Andersson. Illustrated	497
EDITORIAL COMMENT	500
PROGRESS OF NAVAL VESSELS	502
ENGINEERING SPECIALTIES. Illustrated	502
INDICATORS	504
TECHNICAL PUBLICATIONS	504
SELECTED MARINE PATENTS. Illustrated	506

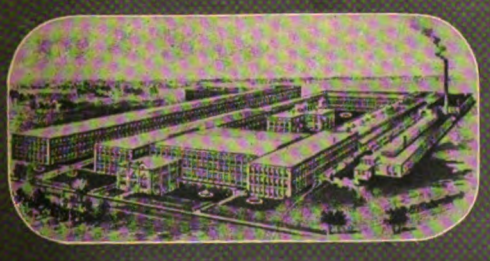
LONDON:
CHRISTOPHER STREET
FINSBURY SQUARE, E. C.

NEW YORK:
WHITEHALL BUILDING
17 BATTERY PLACE

COLUMBIAN ROPE CO.

MANUFACTURERS OF

CORDAGE



MANILA ROPE,
SISAL ROPE,
JUTE AND AMERICAN HEMP TWINES,
ITALIAN AND RUSSIAN FLAX TWINES,

TRANSMISSION ROPE,
OIL WELL CORDAGE,
HAY, HIDE AND BALE ROPE,
PAPER TWINE, RING YARN, SPUN YARN,
TARRED GOODS.

HOME OFFICE AND FACTORIES: AUBURN, NEW YORK.

NEW YORK CITY OFFICE: 62 SOUTH STREET.

When writing to advertisers, please mention International Marine Engineering.

Generated on 2024-09-12 07:32 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

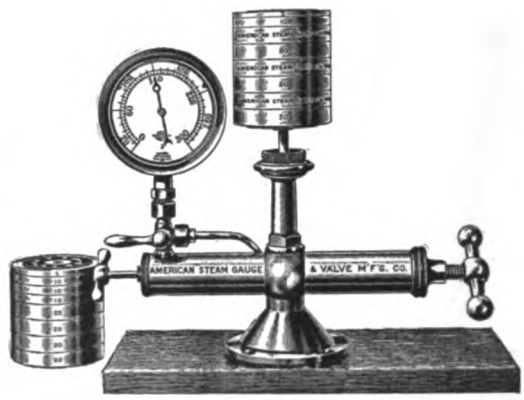
Power Auditors

An audit is assurance which every successful business man demands.

You audit your cash—invoices—accounts and costs.

You should also audit your Power.

The American Dead Weight Tester is a Power Auditor.



THE AMERICAN DEAD WEIGHT TESTER

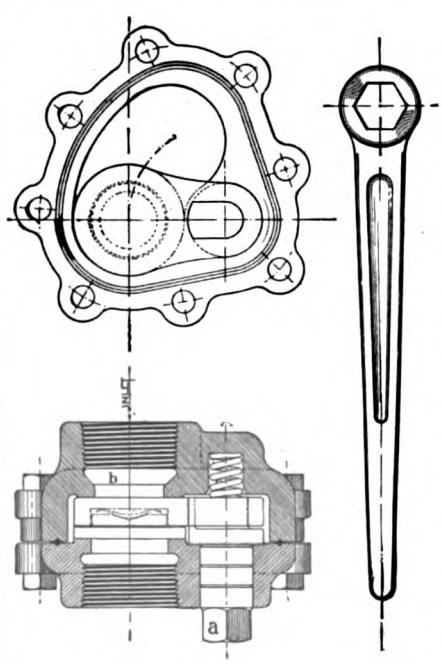
It reveals the slightest error in your gauges as accurately as the expensive, cumbersome mercury column apparatus in our factory.

Every power plant should have this important detail of equipment.

Send for our Special Leaflet on the American Dead Weight Tester.

American Steam Gauge & Valve Manufacturing Company

NEW YORK	CHICAGO	BOSTON	ATLANTA	MONTREAL
16 Cortlandt St.	130 North Jefferson St.	20 Camden St.	525 Chandler Bldg.	444 St. James St.



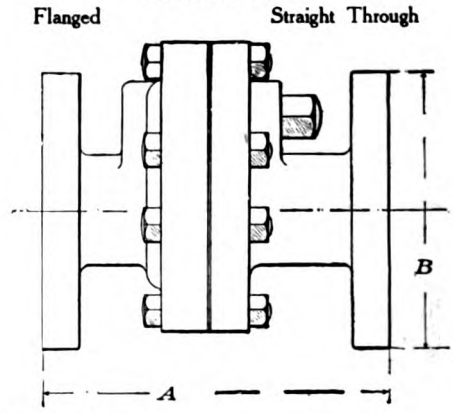
C. Q. D.

. . . . . — . — . .

The Everlasting Blow-Off Valve

MARINE TYPE

Flanged Straight Through



Has come to your rescue.

IT DOES NOT LEAK

Straight Through Blow

Simple and Easily Operated

Continued and Uninterrupted Service

May we send you a **Valve on Trial**—all charges prepaid?

SCULLY STEEL & IRON COMPANY

2 Rector Street
NEW YORK

Halstead and Fulton Streets
24th and Ashland Avenue
CHICAGO

Generated on 2024-09-12 07:37 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

TRADE PUBLICATIONS.

AMERICA

"Holmes metallic packing is not a new packing but is in new hands, who are determined to supply the consumer with the best packing on the market, and at prices that will cause it to be used and its merits become known." The claim is made in a catalogue published by the manufacturer, the Holmes Metallic Packing Company, Wilkesbarre, Pa., that it does not cut or score the rod, and that when an engine is inactive it will not blister or rust the rod or stem. The packing may be placed in the stuffing-box without disconnecting the rod and in very short time. It is furnished on thirty days' trial, and the rings (the only part that can wear) are guaranteed for one year. The company also guarantees the packing to be steam-tight, and not to score, scratch, blister or wear the rod or stem out of round.

Buffalo machinery is the subject of the 1910 edition of Catalogue No. 178 just issued by the Buffalo Forge Company, Buffalo, N. Y. This is a very profusely illustrated volume of 304 pages, in which is described what is said to be the largest and most complete line of modern-time and labor-saving blacksmith machinery ever offered. These machines are the result of thirty years' experience and knowledge of blacksmiths' requirements. "As the inventors of portable forges and the pioneers in the manufacture of blacksmith machines, we have always kept abreast with the times." Especial attention is called to the portable down-draft and electric forges shown in the catalogue. These were brought out to fill a long-felt want of the average smith and to place him on a competitive basis with the larger shops equipped with power machinery.

The eighth edition of the Smooth-On *Instruction Book* has just been issued by the Smooth-On Manufacturing Company, 572 Communipaw avenue, Jersey City, N. J. This book tells all about Smooth-On iron cements, sheet packings, corrugated metal gaskets, and shows when, where and how to use them. "The great value of Smooth-On to the manufacturer and user is because of its peculiar chemical properties, namely, of metalizing and of expanding when metalizing, and it can be prepared to act quickly or slowly, according to the requirements of particular uses. These properties make Smooth-On a valuable substance in the making of chemical iron cements. To this subject the chemist of the Smooth-On Manufacturing Company has given careful study for fifteen years, and has succeeded in compounding the valuable iron cements known so generally throughout the world as Smooth-On iron cements. These cements are made each for a special purpose; they are carefully prepared by a chemist, and when correctly used they make permanent repairs. The different Smooth-On cements are explained in the following pages; a careful study of them will prove interesting and profitable. The illustrations are made from photographs of actual subjects, and show some of the many ways in which the Smooth-On cements have been used and the results obtained."

Injectors, ejectors, oil and grease cups and other steam specialties are the subject of Catalogue No. 24, published by the Penberthy Injector Company, 342 Holden avenue, Detroit, Mich. "The Penberthy automatic injector has been too long upon the market and is too well-known to the steam user and the steam supply trade to need any introduction or explanation. The auto-positive injector has now been on the market for several years, and has won deserved recognition for its reliability under extreme conditions, while retaining the utmost simplicity of construction. By a peculiar arrangement of the overflow valves it will work on higher pressure and handle hotter water than the Penberthy automatic. In comparing the two styles the question will often arise in the mind of the user: which type of injector will give the best results? In answering this question, not only must the comparative results obtained from the two styles be borne in mind, but also the fact that no injector will give as economical or satisfactory results when working near its highest limit; and, further, as the parts begin to wear its working range is decreased. We, therefore recommend for pressures at 140 pounds and upwards, or where the temperature of the water supply is above 110 at 100 pounds pressure or over, that the auto-positive injector be given the preference. For all other conditions, and particularly for traction engine use, we recommend the Penberthy automatic. Our exact claims for each type of injector will be found under the heading of the respective machines. The information following as to variation in results due to varying conditions, while referring to the Penberthy automatic injector, is equally applicable to the claims made for the auto-positive."

TALKS TO THE ENGINEER

Talk No. 1—

Permanite Sheet Packing

For high pressure and superheated steam conditions you want the very best packing you can get. Ordinary rubber and organic packings won't do, as the excessive heat soon softens them, or else they dry out and char. In either event they soon lose their tensile strength and then a blow-out occurs.

PERMANITE PACKING was *designed especially* for this service. It will not soften under *any temperature up to 1000 deg. F.*, nor will it blow out under *any steam pressure.* It is an *indestructible* sheet, because its basis is pure asbestos fibre, which is unaffected by any degree of heat. The asbestos is combined with special compounds which give great tensile strength, toughness and pliability to the finished product. As a result, PERMANITE combines the permanent durability of asbestos packing with the resiliency and pliability of rubber packing:

Let us send you sample of PERMANITE and Booklet. Simply write your name and address on margin of this advertisement and mail it to us.

H. W. JOHNS-MANVILLE CO.

Baltimore	Dallas	Milwaukee	Pittsburg
Boston	Detroit	Minneapolis	San Francisco
Buffalo	Kansas City	New Orleans	Seattle
Chicago	London	New York	St. Louis
Cleveland	Los Angeles	Philadelphia	

1071

Motor Boats

By Dr. W. F. DURAND

THIS is the only book which covers the subject of motor boats from a scientific and engineering point of view. It is written in such simple language that any man who knows anything about motor boats can understand every word of it.

It deals with the following subjects:

General Problem of the Motor Boat
The Internal Combustion Engine—General Principles
The Internal Combustion Engine—Application to Marine Service
Carburetion and Ignition
The Boat—Form Below Water and Above
The Design of Form
Practical Boat Construction
Laying Down and Assembling
Power and Speed
Propeller Design
Endurance and Radius of Action
Troubles and How to Locate Them
Racing Rules and Time Allowance

APPENDIX

Use of Alcohol as Fuel for Gas Engines
Kerosene Engines as Developed Up to Date

210 Pages, 6 x 8½ Inches. Price, $1 50. 6/3

International Marine Engineering

Christopher St, Finsbury Sq. LONDON, E. C.
Whitehall Bldg., 17 Battery Pl. NEW YORK CITY

Generated on 2024-09-12 07:36 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

Mechanical rubber goods are described in a handsome catalogue of 130 pages, illustrated in several colors, just issued by the Diamond Rubber Company, Akron, Ohio. Among the products of this company of interest to marine people are packing, hose, valves, gaskets, etc.

The Trill Indicator Company, Corry, Pa., has just issued an attractive 44-page booklet describing its various types of indicators. This book also describes the "Faultless" reducing motion Trill planimeter and indicators for high-pressure and ammonia work. Besides the description of the apparatus, interesting discussions are given on numerous cards and the causes of various unusual curves pointed out. A method is also given for drawing adiabatic and saturation curves. There is also a chapter on indicating gas engines, with discussions of faulty diagrams and a chapter on indicating compound engines and drawing combined cards.

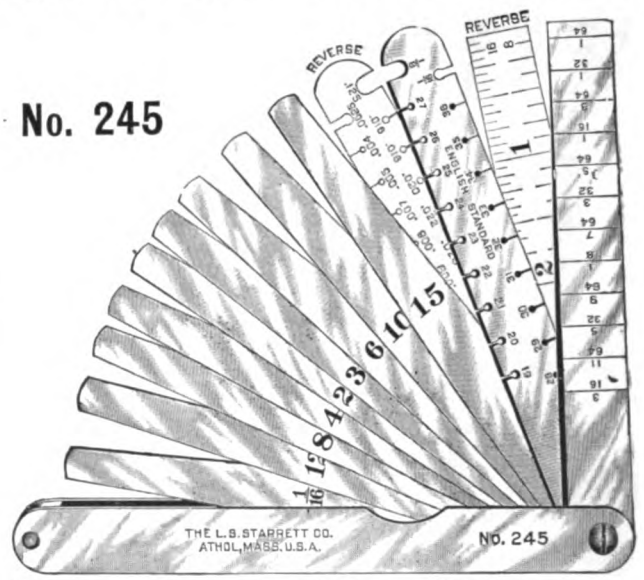
That Plymouth cordage is very highly regarded by vessel owners and captains hailing from our Atlantic coast ports is perhaps not strange, but it may surprise some to know that these goods are in equal favor upon the other edge of the continent. In a recent issue of *Plymouth Products* are shown pictures of two vessels fitted out with Plymouth cordage—one sailing the Atlantic, the other the Pacific. One of these is the big six-master *Addie M. Lawrence,* one of the fine fleet of schooners controlled by J. S. Winslow & Company, of Portland, Me. The other is the schooner *Alice,* one of the crack Pacific coast cod-fishing fleet. When the picture was taken she had, together with a number of her sisters, just received her outfit of Plymouth cordage at the hands of the Pacific Net & Twine Company, Seattle, Wash.

Feed-water filters for marine and stationary boilers are described in a catalogue published by the Ross Valve Company, Troy, N. Y. An illustration is given showing "a feed-water filter, or oil separator, already in extensive use in stationary plants and upon trans-Atlantic and other steamers. Its function is to remove oil from feed water wherever a condenser is used, and the water is used over and over, and has already passed through the engine and carries more or less of the lubricating oil, which it is very necessary to exclude from the boilers. The filter is connected into and forms a part of the feed pipe, being located usually between the feed pump and the boiler. It will be conceded that this filter is very essential to the equipment of a surface-condensing steam engine plant, especially in marine service, where fresh water is not readily available."

Centrifugal pumping machinery is the subject of Catalogue B, published by the Lawrence Pump & Engine Company, Lawrence, Mass. Regarding this company's belt-driven sand and dredging pumps the catalogue states that "they are furnished complete with suction elbow, flap valve and steam ejector for priming. The pump shell is in one casting, very heavy, with extra metal provided in such parts as are most subject to wear. A removable plate is provided on each side of the shell, which gives easy access to the inside of the pump or for the removal of the impeller. The impeller is of the enclosed type, and is of large diameter for moderate speed. The stuffing-box bearing is easily removed from the shaft, and is provided with water injection to prevent sand entering the bearing. The shafts and pulleys are of large diameter. Ample thrust bearings are provided. We supply pumps with steel lining when desired."

Feed-water filtration is the subject of a catalogue published by James Beggs & Company, 109 Liberty street, New York. This catalogue is devoted to the Blackburn Smith feed-water filter and grease extractor for the removal of organic matter, sediment, lubricating oils, etc., from the boiler feed water in marine and stationary power plants. "The Blackburn Smith filter is the only one having small, convenient cartridges, and compelling double friction through two separate and independent filtering surfaces. It is the only filter in which the media can be changed quickly and easily when fouled. On by-passing, opening the sludge valve and lifting the filter cover, the outer cartridges may be removed and replaced by the spare cartridges. Heavy impurities, which may at times cling to the walls of the filtering chamber or settle to the bottom, may be blown out by opening the sludge valve and admitting live steam through the tap for that purpose. Heavier impurities which collect on the outer filtering cloth may be partially removed by reversing the flow. This is done (without shutting down the plant) by lowering both inlet and outlet valves to their lowest limits, opening the sludge valve and then raising the inlet valve by one or two turns. After running long enough in this position to rinse off the outer filtering surface the inlet valve is closed again and the outlet valve opened by one or two turns."

Engineers' Taper, Wire & Thickness Gage



This gage is especially designed for the use of marine engineers, machinists and others desiring a set of gages in compact form.

The taper gage shows the thickness in 64ths to 3-16ths of an inch on one side, and on the reverse side is graduated as a rule three inches of its length, reading in 8ths and 16ths of an inch.

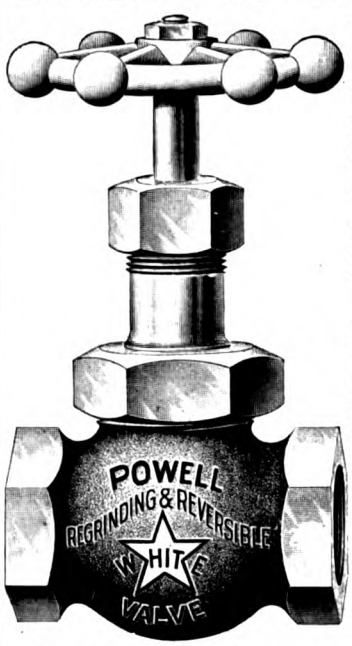
The wire gage, English Standard, shows on one side sizes numbered from 19 to 36, with two extra slots, one 1-16, the other ⅛ of an inch, and on the reverse side shows the decimal equivalents expressed in thousandths. This gage has also 9 thickness or feeler gage leaves, approximately 4 inches long, of the following thicknesses: .002, .003, .004, .006, .008, .010, .012, .015 and 1-16th of an inch, all folded within the case, which is 4¼ inches long, convenient to handle or to carry in the pocket.

Price, each, $3.50 **Catalogue 18-L Free.**

THE L. S. STARRETT CO., Athol, Mass., U.S.A.

London Warehouse, 36 and 37 Upper Thames St., E. C.

POWELL "WHITE STAR" VALVE



When you consider that the life of a valve is limited to the life of the Disc and Seat, the POWELL "WHITE STAR" Reversible and Renewable Disc Valve must appeal to you as being the most economical.

The parts that wear are easily replaced and can be bought at a fraction of the cost of a new Valve.

Get a Powell "White Star" Valve and *try it out* HARD—you will find that in your yearly supply account it is the most economical.

Send for booklet describing its peculiar merits.

THE WM. POWELL CO.

DEPENDABLE ENGINEERING SPECIALTIES.

CINCINNATI

NEW YORK: 254 Canal St. BOSTON: 238-45 Causeway St.

PHILADELPHIA: 518 Arch St.

Generated on 2024-09-12 07:36 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

A SAFE MARINE LUBRICANT

That clearly describes Dixon's Flake Graphite. It is a true lubricant of great endurance, and yet is not susceptible to heat or cold, acids or alkalies. It has no relation to oil or grease. Write us about it.

JOSEPH DIXON CRUCIBLE CO.
JERSEY CITY, N. J.

Jeffery's Patent Marine Yacht Glue

Has no equal for paying seams of yachts' decks.
Send for circulars, samples, etc.

L. W. Ferdinand & Co., 201 South St., Boston, Mass., U. S. A.

The Shipbuilder's Hand Book

A DIGEST OF THE SEVERAL SHIP CLASSIFICATION SOCIETY RULES

These rules, as published by the several Societies are very elaborate, and it requires several volumes to look up any one subject.

In order to have them in convenient form so that any subject may be looked up with the least waste of time, there has been published a complete digest of said Societies' Rules in book form.

There are 160 printed pages, printed only on right hand pages. The left hand pages are left blank for purposes of interlining, additions, or changes in the Rules, or for any notes which the user of the book may wish to make. There is a complete index.

The pages are about 8 by 11 inches, and the book is bound with flexible cloth cover, so that it can be folded up and put into the pocket.

PRICE, $3.00 - 12s. 6d.

INTERNATIONAL MARINE ENGINEERING

Whitehall Building, 17 Battery Place
New York City

Christopher Street, Finsbury Square
London, E. C.

"Water Treatment" is the title of a handsome catalogue published by the Dearborn Drug & Chemical Works, Chicago, Ill. This company makes a specialty of compounds for marine boilers.

Portable tools and machinery are described and illustrated in a catalogue issued by the Stow Flexible Shaft Company, Philadelphia, Pa. The stow flexible shaft consists of a flexible shaft of wire cable revolving within a wire tube, one end of the shaft being connected with the motive apparatus and the other doing the work. It transmits this rotary motion any distance from the power source through any number of curves, thus allowing the power to be carried to the work instead of the work to the power. Among the many uses of this shaft are for attachment to portable tools, such as drills of many kinds, tapping and reaming machines, grinding and polishing tools, stay-bolt and flue cutters, etc.

The C. H. Wheeler Manufacturing Company, Lehigh avenue and Eighteenth street, Philadelphia, makes a specialty of tugboat, ferryboat and dredge equipment. The company manufactures high-vacuum marine surface condensers for steam turbine service, also auxiliary marine condensers, boiler feed, bilge, deck wash, ash ejector and fire pumps, rotary and reciprocating high-vacuum pumps, both vertical and horizontal; of the single, twin and triplex type and of every size and duty, and a special line of feed-water heaters, horizontal and vertical patterns and evaporators. The company publishes, bound in pamphlet form, a number of half-tone cuts illustrating its various products. A free copy of this pamphlet will be sent to any of our readers upon application.

The Reilly multi-coil heater is the subject of an illustrated catalogue issued by the Griscom-Spencer Company, 90 West street, New York City. In this pamphlet is illustrated the 5,000-horsepower Reilly multi-coil feed-water heater installed on the steamship *Comus,* of the Southern Pacific Line. The heater is insulated with a magnesia covering incased in a galvanized iron jacket. In this plant the auxiliary engines, whose exhaust steam is used in the heater, are operated under 5 pounds back pressure, and the feed temperature runs constantly between 220 degrees and 225 degrees F. Only the exhaust steam of the auxiliary engines is used. The claim is made that by the use of this heater a direct saving of 8 to 15 percent in fuel per horsepower is made, and the same percentage is added to the maximum boiler capacity.

Drills are illustrated in a catalogue issued by the Celfor Tool Company, Railway Exchange, Chicago, Ill. This company manufactures drills, reamers and three-lipped drills, Rich flat drills, Celfor, Rich and quick-change chucks, reamer sockets and grinding machinery. "The Celfor drill, manufactured only by the Celfor Tool Company, is a twisted drill, made from a specially rolled section of the best high-speed steel which can be manufactured. The Celfor drill is of unique construction—a construction which gives it marked advantages over all other forms of high-speed drills. That it will accomplish wonderful results—better results than other high-speed drills—and that it is more durable and less costly, we are prepared to prove to those who have not already proved it for themselves. The twisting while hot, in a machine especially designed for the purpose, of a flat bar of high-speed steel does not impair in any sense the quality of the steel; in fact, it improves it. Tests of the torsional strength of Celfor drills show them to be 47 percent stronger than the torsional strength of the flat bar of which they are made."

One of the handsomest catalogues of the year is that issued by the Brown Hoisting Machinery Company, Cleveland, Ohio. This is a 200-page cloth-bound volume, beautifully illustrated with half-tone engravings, many of them being 18 by 6 inches in size. The Brown Hoisting Machinery Company are engineers, designers and manufacturers of complete plants for the rapid and economical handling of coal and other material, and their catalogue shows some representative plants which the company have designed and built, and illustrates the adaptability of the Brown system to widely varying conditions of work. Among the half-tone illustrations are those showing a "Brownhoist" electric gantry crane at the plant of the American Shipbuilding Company, Lorain, Ohio; a "Brownhoist" gantry crane with cantilever extension at the American Shipbuilding Company's plant, West Bay City, Mich.; a "Brownhoist" electric cantilever shipbuilding crane at the Cramp's ship yard, Philadelphia; the same at the Newport News Shipbuilding & Dry Dock Company's yard, and at the ship yards of Harland & Wolff, Belfast, Ireland, and at many other foreign and domestic ship yards. One of the handsomest illustrations in the book is a two-page half-tone, showing a splendid view of the Cramp ship yard during the launching of the United States battleship *Pennsylvania.*

Generated on 2024-09-12 07:41 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

"Plymouth Products" is the title of a series of bulletins issued by the Plymouth Cordage Company, North Plymouth, Mass. This company makes high-grade manila hemp for marine trade. It has been in business for eighty-five years. The company also issues a series of bulletins called *Plymouth Twine News,* which should be read by every twine buyer.

Every draftsman and navigator should send for a free copy of the 1909 catalogue published by the Keuffel & Esser Company, 121 Fulton street, New York, and mention INTERNATIONAL MARINE ENGINEERING. This catalogue is a very complete and profusely illustrated volume of 544 pages, and in it is listed every article that could possibly be wanted by the navigator, draftsman or surveyor, such as compasses, drawing paper, blue printing machines, barometers, drawing boards and instruments of all kinds, planimeters, measuring tapes, drawing in, protractors, scales, sliding rules, transits, levels, etc.

Steam pumps and pumping engines, condensers, evaporators, ash ejectors, etc., are the subject of an illustrated 96-page catalogue issued by M. T. Davidson Company, Tribune building, 154 Nassau street, New York. Regarding the Davidson surface condenser the catalogue states that it is built in strict conformity with United States navy requirements. The Davidson vertical, single-cylinder, double-acting air pump is especially adapted for use on steam yachts, small steamers and in situations where floor space is limited. Many advantages over other makes are claimed for the Davidson machines, and a free copy of this catalogue will be sent to any of our readers who will mention this magazine.

Reilly multi-coil evaporators and distillers, feed-water heaters and condensers are described in illustrated circulars published by the Griscom-Spencer Company, 90 West street, New York. Regarding this company's evaporators the statement is made: "For large plants, where economy of operation is a prime factor, our type B evaporators, arranged in 'multiple effect,' make the most efficient distilling apparatus that can be procured. In this arrangement a number of evaporators are connected in series, the vapor from one passing to the steam coils of the next, where it is condensed in the course of generating more vapor at a slightly lower pressure, which again passes to another evaporator, and the process thus continued until the limiting vapor pressure is reached. This 'multiple effect' operation reduces the amounts of boiler steam and of condensing water to a minimum."

Catalogue No. 10 has been issued by the Eynon-Evans Manufacturing Company, Philadelphia, Pa., engineers, pattern makers, bronze founders and machinists. This is a very complete illustrated volume of 200 pages, describing and illustrating injectors, condensers, blowers, water heaters, valves, cocks, centrifugal pumps, compressed air and circulating pumps, etc.

Any person interested in steel and iron merchandise of any variety will be sent regularly, free of charge, the stock list issued by the Scully Steel & Iron Company, Chicago, Ill., and will also be furnished with a free copy of the company's Blue Book, which is a complete catalogue of iron-working machines, tools and appliances that will be welcomed for the vast amount of valuable tables and reference information that it contains.

The "Diamond" steam flue blower is the subject of the latest catalogue published by the "Diamond" Power Specialty Company, 234 Fort street, West, Detroit, Mich. This flue blower is said to be especially adapted for marine use, and in the catalogue are complimentary letters from the New England Navigation Company, the New England Transit Company, the Milwaukee Tug Boat Line, the Union Steamship Company of New Zealand, and from the chief engineers of a large number of tugs and steamships in this and foreign countries.

A marine type of pop safety valve is described in an illustrated catalogue published by the Consolidated Safety Valve Company, 85 Liberty street, New York City. These valves are made in single and duplex patterns, and are stated to combine new features developed by the high duty demands of modern boiler practice, together with the fundamental principles of construction which made the original pop safety valve famous. The claim is made that the new form of construction gives it a much greater relieving capacity than that of any other valve ever produced.

Hancock valves are described and illustrated in a 40-page catalogue issued by the Hancock Inspirator Company, 85 Liberty street, New York. The Hancock bronze globe, angle, 60-degree and cross valves are made regularly in sizes up to 3 inches. All styles are made with screwed or flanged connections, with plain or yoke type of bonnet. They are made to one standard only for all steam pressures up to 500 pounds. Under actual test, so the catalogue states, the bodies of all these valves will stand a pressure of at least 4,000 pounds per square inch.

THE AIR BETWEEN DECKS

may be kept as sweet and fresh as out-door air by means of a Sturtevant "Ready-to-Run" Ventilating Set. No more stuffy cabins or uncomfortable staterooms where this set is used. It blows air in—or—blows air out. It may be carried about easily, and runs from the electric light socket.

A large number are used by the United States Navy for whom they were designed.

Ask for Bulletin No. 108M

B. F. STURTEVANT CO., Boston, Mass.

GENERAL OFFICE AND WORKS, HYDE PARK, MASS.

NEW YORK PHILADELPHIA CHICAGO CINCINNATI LONDON

Designers and Builders of Heating, Ventilating, Drying and Mechanical Draft Apparatus; Fan Blowers and Exhausters; Rotary Blowers and Exhausters; Steam Engines, Electric Motors and Generating Sets; Pneumatic Separators, Fuel Economizers, Forges, Exhaust Heads, Steam Traps, Steam Turbines; Etc.

771

Generated on 2024-09-12 07:33 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

"The Foxboro Recorder" is published by the Industrial Instrument Company, Foxboro, Mass., and contains a series of papers about the manufacture and use of instruments, such as tachometers of various types, gages, revolution counters, etc.

Pumping machinery for every service is described in the latest catalogue published by the Buffalo Steam Pump Company, Buffalo, N. Y. This catalogue lists, among many others, ammonia pumps, air and circulating pumps, boiler-feed pumps, bilge pumps, condensers, jet and surface fire pumps, marine pumps, etc.

The points of advantage claimed for the Huxley ball cock, or blow-off valve, made by the Huxley Valve Company, Buffalo, N. Y., are that it is made of bronze, is simple in construction, and has a full, straight opening the size of the pipe from the boiler. It is said to be adapted for all purposes where a quick, full and straight opening and a positive joint are desired, and for any working pressure up to 200 pounds. It is tested to 800 pounds hydraulic pressure.

A comparison of Sirocco with steel plate fans is worked out in a catalogue published by the American Blower Company, Detroit, Mich. The advantages in favor of the Sirocco fan are summarized as follows: "Increased efficiency, resulting in a saving in horsepower for same capacity; increase in capacity of fan for the same power; smaller space occupied for a given capacity, or increased capacity for the same space occupied; slower speed, resulting in quiet operation."

TRADE PUBLICATIONS

GREAT BRITAIN

Campbell patent furnace bars, made by Willock, Reid & Company, Ltd., 109 Hope street, Glasgow, are used on a great number of well-known steamships of all lines. According to a circular just published, the most gratifying results have been obtained by the use of these furnace bars, both in steaming and economy. Their durability, compared with the old style of bars, is said to result in a gain of 95 percent. The White Star liner *Oceanic*, for instance, used about 3,850 bars of the old style in twelve trips. Since the adoption of the Campbell patent furnace bars, however, in the twelve trips only 119 bars were used.

A catalogue of steel boilers and accessories and superheaters for marine and land purposes has just been published by the Central Marine Engine Works, West Hartlepool.

Gold mirrors for searchlights have recently been put on the market by the Reflector Syndicate, Ltd., Grosvenor Mansions, Victoria street, Westminster, London, S. W. These mirrors are described in trade literature the company is issuing, according to which a long series of experiments have been made with glass mirrors coated with gold instead of with silver deposit, the result being, it is said, that the beam of light is practically devoid of the blue and voliet rays of light, being composed of red, yellow and green rays only. The claim is made that for naval projector work it is found that a torpedo boat on a foggy or rainy night can be more clearly seen with a gold than with a silver mirror projector.

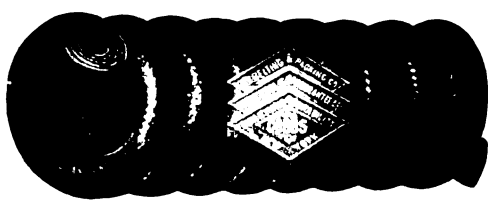
The Standard Piston Ring & Engineering Co., Ltd., Premier Works, Don Road, Sheffield, has issued circulars illustrating the position of the oval springs and cone formation of inner faces. The iron of which these rings are made is of a very special quality, of extreme toughness and elasticity. An extract from *Engineering*, descriptive of a test made on a 3¼-inch diameter ring (Ramsbottom type) states: "One of these rings, 3¼ inches in diameter, and having an opening of ⅛ inch, was first sprung open until the opening was 1⅛ inches, the extension being therefore 1 inch. It was again tried, the width of the opening being extended ⅛ inch at a time until it reached 1½ inches."

The third edition of the Consolidated Pneumatic Tool Company's catalogue has been issued. Portable drills, for either direct or alternating current, are illustrated, those of the latter type being suitable for holes up to 2 inches in diameter in steel. The direct-current drills have one, two or three armatures, and are made to take drills up to 3 inches in diameter. The drill is driven through planetary gearing, and a fan on the armature serves to keep the winding cool. A small portable blower, designed to remove the dust from electrical machinery, is illustrated, as also are lifting blocks, coal and ore boring drills, magnetic separators, arc lamps for submarine use, and several types of portable and other grinding machines, all electrically driven. The address of the company is 9 Bridge street, Westminster, London, S. W.

COBBS HIGH PRESSURE SPIRAL PISTON

And VALVE STEM PACKING

IT HAS STOOD THE TEST OF YEARS AND NOT FOUND WANTING



IT IS THE MOST ECONOMICAL AND GREATEST LABOR SAVER

WHY? **Because it is the only one constructed on correct principles. The rubber core is made of a special oil and heat resisting compound covered with duck, the outer covering being fine asbestos. It will not score the rod or blow out under the highest pressure.**

NEW YORK BELTING AND PACKING CO.

91 and 93 Chambers Street, NEW YORK

LONDON, E. C., ENGLAND, 11 Southampton Row

CHICAGO, ILL., 150 LAKE STREET
ST. LOUIS, MO., 218-220 CHESTNUT STREET
PHILADELPHIA, PA., 118-120 NORTH 8TH STREET
SAN FRANCISCO, CAL., 129-131 FIRST ST., OAKLAND
BOSTON, MASS., 232 SUMMER STREET
PITTSBURGH, PA., 913-915 LIBERTY AVENUE
PORTLAND, ORE., 40 FIRST STREET
SPOKANE, WASH., 163 S. LINCOLN STREET

Generated on 2024-09-12 07:32 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

A number of circulars, giving details of their steel chequered plates, steel ship, bridge and boiler plates, sectional steel, has recently been issued by the Consett Iron Company, Ltd., Consett, Durham.

The Carbon Cement Company, Ltd., 166 St. James street, Kinning Park, Glasgow, is calling attention to its boiler and pipe coverers in circulars it has just issued. This company supplied all the non-conducting covering work on the Cunarder *Lusitania.*

David Rowan & Company, marine engineers and boiler makers, 231 Elliot street, Glasgow, have issued a handsome catalogue, profusely illustrated by half-tone cuts, and giving a detailed description of the plant and its capacity. Messrs. Rowan & Company have made the engines and boilers for some of the best-known passenger and cargo vessels.

The Cradley Boiler Company, Cradley Heath, Staffordshire, have issued an excellent catalogue, fully illustrated from photographs of actual boilers manufactured by the firm. Particulars are given of Lancashire, Cornish, Cornish multi-tubular and Colonial boilers, locomotive and marine boilers, and also vertical boilers of several different types, steam-jacketed pans, buoys, etc.

A new catalogue of emery wheels and grinding machinery has been issued by Messrs. B. R. Rowland & Co., Ltd., Climax Works, Reddish, near Manchester. Details are given of emery and corundum wheels, and also of wheels made from a new substance known as carbo-corundum, all of which are manufactured by this firm. Machines of a specially strong nature, for all kinds of wet or dry grinding, are illustrated, including floor and bench grinders, either belt or electrically driven, and tool-grinding machines with fountain tool-rest.

Cammell, Laird & Company, Ltd., recently delivered from their Grimesthorpe Works, Sheffield, to Davy Bros., Ltd., also of Sheffield, a steel press base casting, weighing 56½ tons, which is required for a 4,500-ton forging press which Messrs. Davy are building for the Terni Steel Works, Italy. We understand that Cammell, Laird & Company, Ltd., are also casting a steel entablature for the same press, which will weigh about 51 tons.

Messrs. Charles Winn & Company, Ltd., Granville street, Birmingham, have just published an illustrated catalogue of their gunmetal valves, globe and angle stop valves, with inside or outside screws, renewable seating valves, straightway and parallel slide stop valves, together with check valves, all of which can be supplied with either screwed or flanged ends, are given with prices. A separate list gives particulars of an automatic force-feed lubricator for steam, gas and oil engines and pumps. It is made for both high and low-speed engines. The oil pump of this special lubricator is operated by a cam driven from the engine through worm gearing.

Schmidt's Superheating Company, Ltd., 28 Victoria street, London, S. W., are, we hear, endeavoring to have their superheating system adopted by shipowners in Great Britain. The manager, Mr. A. F. White, has issued a list of vessels on the Continent to which the Schmidt system has been applied during the past six months. The list comprises forty-three steamers, with a total of 22,650 horsepower. We notice the Oldenburg Steamship Company have ten vesels and the Argo Steamship Company nine vessels fitted with the superheater. The results have shown a reduction in coal consumption of 15-20 percent, and as in several instances a cheaper coal has been used since the vessels were fitted with superheaters, the monetary saving has exceeded this.

PRACTICAL MARINE ENGINEERING

FOR

MARINE ENGINEERS AND STUDENTS

WITH

Aids for Applicants for Marine Engineers' Licenses

By PROF. W. F. DURAND

SECOND EDITION, PRICE $5.00 (21/-)

THIS BOOK is devoted exclusively to the practical side of Marine Engineering and is especially intended for operative engineers and students of the subject generally, and particularly for those who are preparing for the examinations for Marine Engineers' licenses for any and all grades

The work is divided into two main parts, of which the first treats of the subject of marine engineering proper, while the second consists of aids to the mathematical calculations which the marine engineer is commonly called on to make

PART I.—Covers the practical side of the subject.

PART II.—Covers the general subject of calculations for marine engineers, and furnishes assistance in mathematics to those who may require such aid.

The book is illustrated with nearly **four hundred diagrams and cuts** made specially for the purpose, and showing constructively the most approved practice in the different branches of the subject. The text is in such plain, simple English that any man with an ordinary education can easily understand it.

FOR SALE BY

INTERNATIONAL MARINE ENGINEERING

17 Battery Place, New York, U. S. A.

Christopher Street

Finsbury Square, E. C., London

BUSINESS NOTES

AMERICA

W. M. CORSE, secretary of the American Brass Founders' Association, has taken the position of works manager of the Lumen Bearing Company, Buffalo, N. Y.

THE FIRE which occurred at the works of the Baltimore Oakum Company, Baltimore, Md., on Nov. 3, turned out not to be as serious as was at first thought. It did not stop the operation of the factory, and the damage does not exceed $7,000.

THE B. F. STURTEVANT COMPANY, fan, blower and engine manufacturer, Hyde Park, Mass., has established in its works a branch of the Massachusetts Savings Bank Insurance. The work is in charge of an instructor, who goes among the men, explaining the necessity and value of systematic saving. A large number of the employees have taken advantage of this proposition, arranging for insurance to amounts varying from $500 to $1,000. We believe such movements for employees' welfare are along progressive lines for bettering conditions of all concerned in the industrial world.

J. & E. HALL Ltd.

(ESTABLISHED 1785)

10, St. Swithin's Lane, London, E.C., and Dartford Ironworks, Kent, England,

MAKERS OF CARBONIC ANHYDRIDE (CO_2)

REFRIGERATING MACHINERY

REPEAT INSTALLATIONS SUPPLIED TO

BRITISH ADMIRALTY	127	JAPANESE ADMIRALTY	46	ITALIAN ADMIRALTY	15
HAMBURG AMERICAN LINE	63	P. & O. STEAM NAV. Co.	34	TYSER LINE	16
UNION CASTLE MAIL S. S. Co.	54	WHITE STAR LINE	33	HOULDER LINE, Ltd.	13
ELDER DEMPSTER & Co.	50	CHARGEURS REUNIS	26	ELDERS & FYFFES, Ltd.	13
ROYAL MAIL S. P. Co.	47	NIPPON YUSEN KAISHA	22	CANADIAN PACIFIC Ry.	12

Generated on 2024-09-12 07:29 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

HELP AND SITUATION AND FOR SALE ADVERTISEMENTS

No advertisements accepted unless cash accompanies the order.

Advertisements will be inserted under this heading at the rate of 4 cents (2 pence) per word for the first insertion. For each subsequent consecutive insertion the charge will be 1 cent (½ penny) per word. But no advertisement will be inserted for less than 75 cents (3 shillings). Replies can be sent to our care if desired, and they will be forwarded without additional charge.

For Sale.—Library of technical and theoretical books on naval architecture and shipbuilding, in whole or per volume. Address *Library,* care INTERNATIONAL MARINE ENGINEERING.

For Sale.—Volumes 6 to 16, inclusive, of *Transactions of Society of Naval Architects.* In good condition. Address *Box 21,* care INTERNATIONAL MARINE ENGINEERING.

Wanted to hear from a manufacturer of marine machinery who could take up the special manufacture of a large machine closely connected with ship machinery. Address *Machine,* care INTERNATIONAL MARINE ENGINEERING.

THE FOLLOWING VESSELS have been classed and rated in the *Record of American and Foreign Shipping,* published by the American Bureau of Shipping, 66 Beaver street, New York: American screw *Vulcan,* American screw *Magic City,* American screw *Berwind,* American screw *Hector,* American screw *Bay City,* American schooner *Mary L. Baxter,* American schooner *Melbourne P. Smith,* American schooner *Barbara,* British schooner *A. F. Davison,* British three-masted *Rosalie Belliveau,* British three-masted *Lawson,* American three-masted *Otis,* British three-masted *Jeanne A. Pickels,* British three-masted *Ponhook,* British three-masted *Lavengro,* American three-masted *Frank M. Low,* American bark *Fooling Suey.*

THE PAGE ENGINEERING COMPANY, 113 East York street, Baltimore, Md., announces the opening of a New York office, with J. W. Lowell as Eastern manager, at 100 Broadway, telephone Rector 3296. This company is well known as manufacturers of the "Oriole" motor, and is attracting attention at this time because of the Straub two-cycle scavenging gasoline and producer-gas engines which it is now manufacturing and marketing. "This engine is designed primarily for producer gas from crankshaft to cylinder head, and is certain to give a big impetus to the installation of producer-gas plants, owing to the fact that this type of engine requires less weight and space and costs considerably less for the initial investment and for repairs than the four-cycle types and yet is equal in efficiency and reliability. Mr. J. W. Lowell, the Eastern manager, has had a wide experience as engineer salesman in stationary producer-gas plants as well as marine gasoline engines, and is a strong addition to the sales organization."

BUSINESS NOTES

GREAT BRITAIN

AN EMPLOYMENT BUREAU has been instituted by the Society of Engineers, 17 Victoria street, Westminster, S. W. "No fees of any kind are charged, the cost of management being defrayed by the society, with a view to the ultimate benefit of the profession. Qualified engineers of all grades may have their names recorded, though in making a selection from a number of equally suitable men preference is naturally given to members of the society, for whom the register was originally instituted. Only a few names of probably suitable candidates are put forward for each vacancy, so as to facilitate the employer's choice as much as possible. Every effort is made to get personal knowledge of candidates, together with full details of their qualifications, before sending in their names. A number of well-qualified men, representing the various branches of engineering work, are now available, and it is thought that if the register were better known it would be widely used and appreciated by all who require draftsmen, inspectors and other classes of assistants. Employers are invited to send inquiries by telephone or in writing to the secretary, stating their requirements as regards age, qualifications, salary, etc."

MARINE SOCIETIES.

AMERICA

AMERICAN SOCIETY OF NAVAL ENGINEERS.
Navy Department, Washington, D. C.

SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS.
29 West 39th Street, New York.

NATIONAL ASSOCIATION OF ENGINE AND BOAT MANUFACTURERS.
314 Madison Avenue, New York City.

UNITED STATES NAVAL INSTITUTE.
Naval Academy, Annapolis, Md.

GREAT BRITAIN

INSTITUTION OF NAVAL ARCHITECTS.
5 Adelphi Terrace, London, W. C.

INSTITUTION OF ENGINEERS AND SHIPBUILDERS IN SCOTLAND.
207 Bath Street, Glasgow.

NORTHEAST COAST INSTITUTION OF ENGINEERS AND SHIPBUILDERS.
Bolbec Hall, Westgate Road, Newcastle-on-Tyne.

INSTITUTE OF MARINE ENGINEERS, INCORP.
58 Romford Road, Stratford, London, E.

GERMANY.

SCHIFFBAUTECHNISCHE GESELLSCHAFT.
Technische Hochschule, Charlottenburg.

MARINE ENGINEERS' BENEFICIAL ASSOCIATION

NATIONAL OFFICERS.

President—Wm. F. Yates, 21 State St., New York City.
First Vice-President—Charles S. Follett, 477 Arcade Annex, Seattle, Wash.
Second Vice-President—E. I. Jenkins, 3707 Clinton Ave., Cleveland, O.
Third Vice-President—Charles N. Vosburgh, 6128 Patton St., New Orleans, La.
Secretary—Albert L. Jones, 289 Champlain St., Detroit, Mich.
Treasurer—John Henry, 315 South Sixth St., Saginaw, Mich.

ADVISORY BOARD.

Chairman—Wm. Sheffer, 428 N. Carey St., Baltimore, Md.
Secretary—W. D. Blaicher, 10 Exchange St., Buffalo, N. Y.
Franklin J. Houghton, Port Richmond, L. I., N. Y.

LATEST IMPROVED
POWER METAL WORKING MACHINERY
PUNCHES, SHEARS AND ROLLS
Engine, Belt or Motor Driven
The CINCINNATI PUNCH & SHEAR CO., Cincinnati, O., U.S.A.

EASY MONEY FOR MARINE ENGINEERS

by writing up their experiences in making repairs to marine machinery.

Send the stories with pencil sketches to

INTERNATIONAL MARINE ENGINEERING
17 BATTERY PLACE, NEW YORK or
31 CHRISTOPHER ST., FINSBURY SQUARE, LONDON, E. C.

We pay at the of $5.00 or £1 per thousand words, published.
It will be like finding money to write some articles.

Generated on 2024-09-12 07:39 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

RAINBOW PACKING

CAN'T
BLOW
RAINBOW
OUT

Will hold the
highest pressure

DURABLE
EFFECTIVE
ECONOMICAL
RELIABLE

State clearly on your packing orders **Rainbow** and be sure you get the genuine. Look for the trade mark, three rows of diamonds in black in each one of which occurs the word **Rainbow.**

PEERLESS PISTON and VALVE ROD PACKING

You can get from 12 to 18 months' perfect service from **Peerless Packing.** For high or low pressure steam the **Peerless** is head and shoulders above all other packings. The celebrated **Peerless Piston** and **Valve Rod Packing** has many imitators, but no competitors. Don't wait. Order a box today.

Manufactured, Patented and Copyrighted Exclusively by

Peerless Rubber Manufacturing Co.

16 Warren Street and 88 Chambers Street, New York

EUROPEAN AGENCY:—Carr Bros., Ltd., 11 Queen Victoria Street, London, E. C.

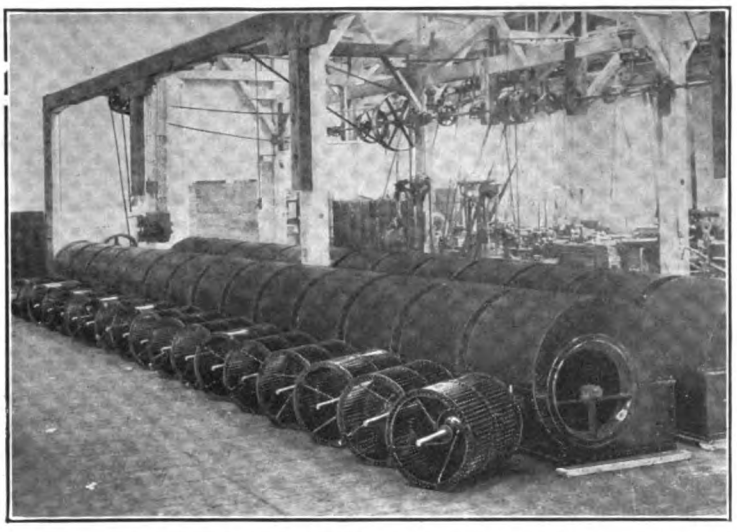
Detroit, Mich.—16-24 Woodward Ave.
Chicago, Ill.—202-210 South Water St
Pittsburg, Pa.—425-427 First Ave.
San Francisco, Cal.—416-422 Mission St.
New Orleans, La.—Cor. Common & Tchoupitoulas Sts.
Atlanta, Ga.—7-9 South Broad St.
Houston, Tex.—113 Main St.
Kansas City, Mo.—1221-1223 Union Ave.
Seattle, Wash.—212-216 Jackson St.
Philadelphia, Pa.—245-247 Master St.
Louisville, Ky.—111-121 West Main St
Indianapolis, Ind.—38-42 South Capitol Ave.
Omaha, Neb.—1218 Farnam St.
Denver, Col.—1556 Wazee St.
Richmond, Va.—Cor. Ninth and Cary Sts.
Waco, Texas—709-711 Austin Ave.
Syracuse, N. Y.—212-214 South Clinton St.
Boston, Mass.—110 Federal St.
Buffalo, N. Y.—379 Washington St.
Rochester, N. Y.—55 East Main St.
Los Angeles, Cal.—115 South Los Angeles St.
Baltimore, Md.—37 Hopkins Place.
Spokane, Wash.—1016-1018 Railroad Ave.
Tacoma, Wash.—1316-1318 A Street.
Portland, Ore.—27-28 North Front St.
Vancouver, B. C.—Carral & Alexander Sts.

FOREIGN DEPOTS

Sole European Depot—Anglo-American Rubber Co., Ltd, 58 Holborn Viaduct London, E. C.
Paris, France—76 Ave. de la Republique.
Johannesburg, South Africa—2427 Mercantile Building.
Copenhagen, Den.—Frederiksholms, Kanal 6.
Sydney, Australia—270 George St.

Generated on 2024-09-12 07:38 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

U. S. S. NORTH DAKOTA



U. S. S. DELAWARE

Detroit "Free Press"

New York "World"

Forced Draft Equipment for U. S. S. "Delaware" and "North Dakota." View taken prior to shipment from our Troy, N. Y., plant.

IS WORLD'S BEST SHIP

Battleship North Dakota, in Trials, Proves Herself Superior to Any Vessel of Dreadnought Class in Any Navy.

Rockland, Maine, November 4.—The North Dakota is the fastest battleship of the Dreadnought type afloat, as well as one of the two most powerful battleships in the world.

Her screw standardization tests over the Rockland measured mile course today developed a maximum speed of 22.25 knots, and an average of 21.883. Both marks are in excess of the best performances of either her sister ship, the Delaware, or the Bellerophon, the leader Dreadnought of the British navy.

In attaining this suprising speed the turbine engines of the North Dakota were forced to the development of more horsepower than has been reached by any battleship afloat. A maximum of 35,150 horsepower was recorded, while 33,875 horsepower was the mean amount. The maximum number of revolutions of her nickel composition propellers was 286 a minute. It was found that 263 revolutions in this time were sufficient to maintain the contract speed of 21 knots.

Stamps Her the Best Afloat.

The North Dakota, by her performance today, takes precedence as a general first class battleship over any other afloat. Her sister ship, the Delaware, which was given her trials over the same course on October 23, was in uncertain possession of this honor by her trial performances, but the figures recorded for the North Dakota today surpass those of any other Dreadnought. There is but one such battleship afloat at the present time whose attainments may exceed those of the North Dakota. This is the Neptune, just launched for the British navy.

The Neptune, however, will have to attain to figures much in excess of specifications to accomplish this. The Bellerophon of the British navy has made 22.1 knots, as compared with the North Dakota's performance today of 22.25.

EACH exceeded her guaranteed speed and horsepower under

FORCED DRAFT

supplied by 28

"SIROCCO"

TRADE MARK

BLOWERS

Total air delivery on both ships

672,000 C.F.M.

at 3½" W.G.

AMERICAN BLOWER COMPANY

Sole Manufacturers of "Sirocco" Patented Fans for the Western Hemisphere

GENERAL OFFICES: DETROIT

EASTERN MARINE SALES OFFICE:

141 BROADWAY, NEW YORK

'Tis a significant fact that in the recent "Hudson-Fulton" Naval Parade, the great ships from any nation *not* equipped with "Sirocco" Blowers were the exception.

WORLD'S GREATEST SEA FIGHTER FOR U. S. NAVY.

Battleship Delaware, Dreadnought's Superior, Ready to Go Into Commission Soon.

NEWPORT NEWS, Va., Oct. 26.—With three brooms at her masthead, significant of a clean sweep of the sea, the new battleship Delaware returned here to-day from her successful standardization tests off Portland, Me., where under 30,000 horse-power she developed a speed of 21.98 knots. This is the greatest speed ever made by a first class battleship. She will now be placed in commission and undergo her official naval tests.

The Delaware is the most powerful fighter afloat, outclassing the British Dreadnought. In appearance she differs from the ordinary type. The forward deck is uncommonly high and broad, calculated to keep the heaviest seas from dashing over the bows and making it possible to fire the guns in the forward turrets when the ship is running at full speed in a storm. In her main battery she carries ten twelve-inch breech leading rifles mounted in pairs in electrically controlled elliptical turrets situated on the centre line of the ship. All ten of the guns may be fired on either broadside.

Two skeleton masts set off her superstructure in place of the steel tube masts in use in other ships. The new type is made of small steel tubes and steel wire cables. Tests in Hampton Roads proved that it was impossible to shoot the masts away. She is equipped with two submerged torpedo tubes. She has a water line armor belt from stem to stern eleven inches thick along the engine room, fire room and magazine spaces and stepped down at bow and stern.

Generated on 2024-09-12 07:34 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

Marine Boilers

INTERNALLY FIRED TYPES

Centrifugal Pumping Machinery

KINGSFORD FOUNDRY AND MACHINE WORKS

OSWEGO, N. Y.

Made For Particular People

THE NEW MODEL

L. C. Smith & Bros. Typewriter

Ball Bearing throughout, at all vital frictional points. Instantly ready for all kinds of special work, billing, card writing—anything needed of a typewriter. No attachments required. No special adjustments necessary. Just insert the paper and go ahead.

New catalogue free

L. C. SMITH & BROS. TYPEWRITER CO.
SYRACUSE, N. Y., U. S. A.

London Branch·
No. 19 Queen Victoria Street, E. C

96-MORISON SUSPENSION FURNACES
FOR
THE NEWPORT NEWS SHIPBUILDING & D.D. CO.
NEWPORT NEWS, VA.
SEPT 21 1909
THOS. F. ROWLAND JR. PRESIDENT
CHAS. B. ROWLAND VICE PRESIDENT
CHAS. H. CORBETT VICE PRESIDENT
GEORGE R. TIBBALS SEC'Y & TREAS.
THE CONTINENTAL IRON WORKS
BOROUGH OF BROOKLYN.
NEW YORK, N.Y.

MORISON SUSPENSION FURNACES

FOR MARINE AND LAND BOILERS

UNIFORM THICKNESS
EASILY CLEANED
UNEXCELLED STRENGTH

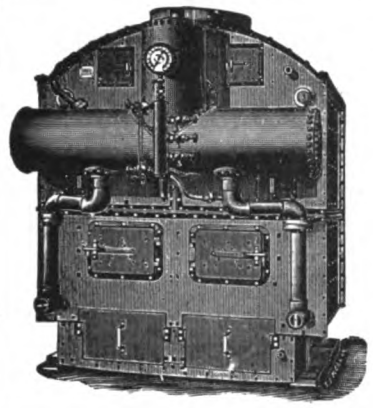
MADE TO UNITED STATES,
LLOYDS BUREAU VERITAS
OR ANY OTHER REQUIREMENTS

MADE IN THE UNITED STATES BY

THE CONTINENTAL IRON WORKS

WEST AND CALYER STREETS NEW YORK (Borough of Brooklyn)

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



WE BUILD,—light,—compact,—durable,—accessible,—sectional,—BOILERS,—for all marine purposes. Our new catalogue describes them, tells who has them, shows cuts of more than 200 vessels we have equipped. Let us mail you one.

ALMY WATER-TUBE BOILER CO.

PROVIDENCE, R. I.

A PERFECT INDICATOR

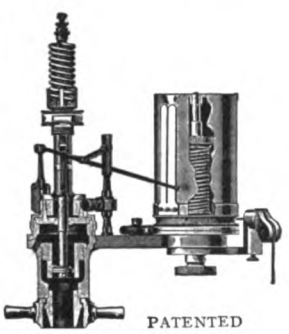
IS THE

Star Improved Outside Spring

CLASS B STYLE

A Quality Instrument

Suitable for High Pressures, High Speeds, Superheated Steam, and all uses where absolute accuracy is required.
Send for Circular.

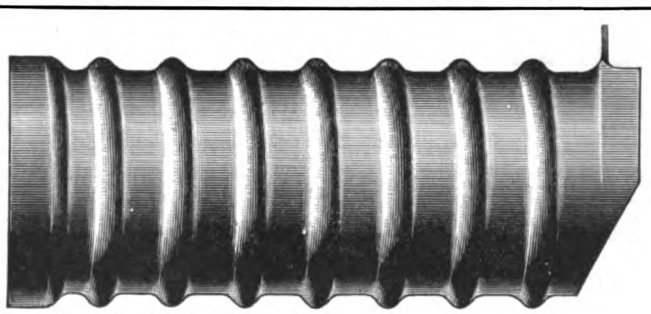


PATENTED

MANUFACTURED EXCLUSIVELY BY

STAR BRASS MFG. CO., 108-114 E. Dedham St., BOSTON

70 Cortlandt Street, New York City — 56 Fifth Avenue, Chicago, Ill.
421 Fulton Building, Pittsburgh — 180 St. James Street, Montreal, Canada



BROWN'S "IMPROVED" SECTION

Furnaces for Marine and Stationary Boilers

Four thousand of our "Improved" and "Cambered" furnaces have been fitted since 1900 without a single failure.

192 Furnaces, "Cambered" Section, fitted in the boilers of the

LUSITANIA

JOHN BROWN & COMPANY, Limited
203 Greenwich Street, New York

W. CARLILE WALLACE
American Representative

Works
Sheffield, England

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

Testimony From the Actual Users(3*)

¶ From time to time we have published statements regarding the merits of the "Modern Boiler Tube," i. e., the steel tube.

¶ In the last analysis, the success of any article must depend upon its own specific merits as evidenced by the experience of actual users.

¶ At the 1909 Convention of the International Master Boiler Makers' Association held in Louisville, Ky., there was a discussion of the report of the Committee appointed to investigate the respective merits of steel vs. iron Boiler Flues, and we quote from the published proceedings the remarks of the foreman Boiler Maker of one of the largest Railroad Systems in the country:

> "I do not think it is the duty of any committee to recommend whether steel or iron should be used. But when you appoint a committee on a subject and ask that committee whether steel or iron is best, they have certainly got to say one thing or the other. From my experience and from the figures and from the mileage and from the service that we have gotten from steel safe ends, it would be impossible for me to come down here and advocate iron, especially when my steel has run from twenty-five to thrity-five per cent. more than iron in the engine. We had an engine that ran 40,000 miles with iron flues and we took it in the shop and applied steel safe ends, and the engine has run 72,000 miles, and she is running yet. So you see that I cannot come down here and say that iron flues are as good as steel."

¶ We formerly made both iron and steel boiler tubes.

¶ After some years of experience and observation we became convinced that the steel tube was the "MODERN BOILER TUBE"—and the manufacture of iron Boiler Tubes was abandoned.

¶ This action was not taken until after careful investigation.

¶ The above instance is typical of the experience of many others.

¶ Different localities present different conditions, and we are always glad to give the benefit of our experience to anyone who desires special information regarding Boiler Tubes suitable for his particular service.

NATIONAL TUBE COMPANY

General Sales Offices: Frick Bldg., Pittsburgh, Pa.

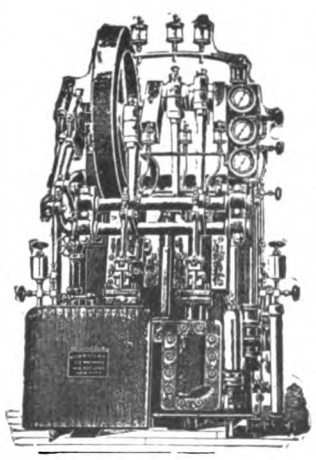
District Sales Offices in all the Larger Cities **Export Representives: U. S. Steel Products Co., New York City**

* This is the third in a series of announcements regarding the "Testimony From the Actual Users." Others have appeared in previous issues and will appear in later issues of this Journal.

H. B. ROELKER

41 Maiden Lane, New York

The ALLEN DENSE-AIR ICE MACHINE



contains no chemicals, only air at easy pressure (65 lbs.), in pipes. It is placed in the engine room and attended by the regular engineers, while meat room and ice-making box and galley and pantry refrigerators are at their usual places. Proven by many years' service in the Tropics on U. S. men-of-war, steam yachts, and passenger steamers. It is as noiseless as any steam engine.

Steam Yachts

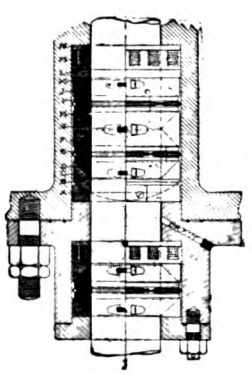
Electra, Nourmahal, May, Josephine, Virginia, Thespia, Dorothea, Felicia, Aloha, Attaquin, Nydia, Alcedo, Enterprise, Alvena, Margaret, Kenawha, Pantooset, Rheclair, Aztec, Lorena, Constant, Riviera, Czarina, Rambler, Apache, and about one hundred and fifty men-of-war and passenger steamers.

KATZENSTEIN'S

Metallic Packings

Of different designs for stuffing boxes of engines, pumps, etc.

Flexible Tubular Metallic Packing for Slip Joints on Steam Pipes . . . . . .



L. KATZENSTEIN & CO.

General Machinists' and Engineers' Supplies . . . .

358 West St., New York, U. S. A.

THE PROFESSOR ON SHIPBOARD

A STORY

NOTHING has ever been published which contains so much every-day information which every engineer ought to know as this book. In addition to the practical information it contains, it is a most readable story of life at sea. There are twelve chapters, as follows: I, In the Fireroom; II, Hardships of Firemen; III, Night Watch in a Gale; IV, Interview with Barney, the Oiler; V, Some Points on Lubrication; VI, Why Engines are Non-Efficient; VII, Salt Water and Boiler Scale; VIII, Cleaning Boilers in a Tropical Port; IX, How to Use Indicators; X, Simple Explanation of the Indicator; XI, Overhauling the Machinery; XII, Painting the Pipe System. 100 pages. By C. A. McAllister. **Price $1.00 (4/-).**

For Sale by

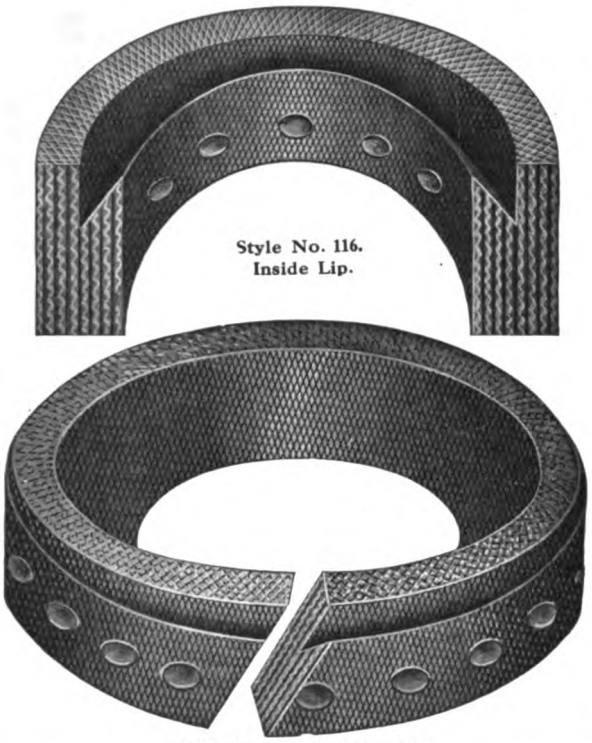
INTERNATIONAL MARINE ENGINEERING

17 Battery Place, New York City

Christopher St., Finsbury Square, London, E. C.

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

SUCCESS HAS COME



Style No. 116. Inside Lip.

Style No. 115. Outside Lip.

to us principally through our method of furnishing special packings to meet special requirements.

Here we show a packing which is intended for

PUMP PISTONS and PLUNGER PUMPS

The lip forms a reservoir for lubrication and an automatic pressure against the rod or cylinder. *The best yet.*

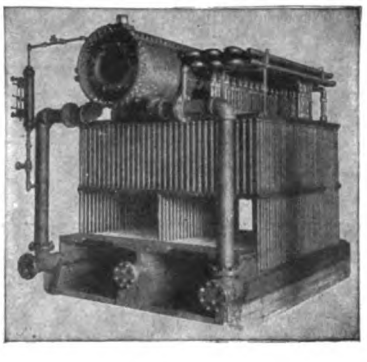
Write us for further particulars

Crandall Packing Company

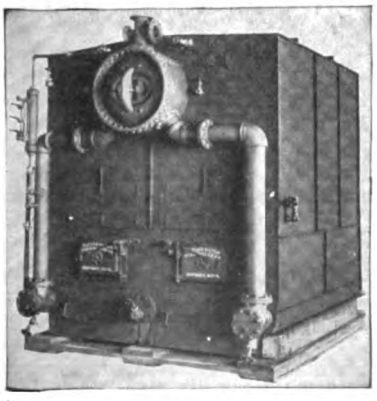
General Office and Factory, PALMYRA, N. Y.

NEW YORK CLEVELAND CHICAGO SAN FRANCISCO
LOS ANGELES SEATTLE PORTLAND

Send for a Catalogue



You cannot choose wisely unless you know what the market affords. We have developed the water tube boiler to a point far beyond that reached in any other design. There is a reason for all things. There are many reasons for the Taylor design. Our catalogue gives our reasons and our record.

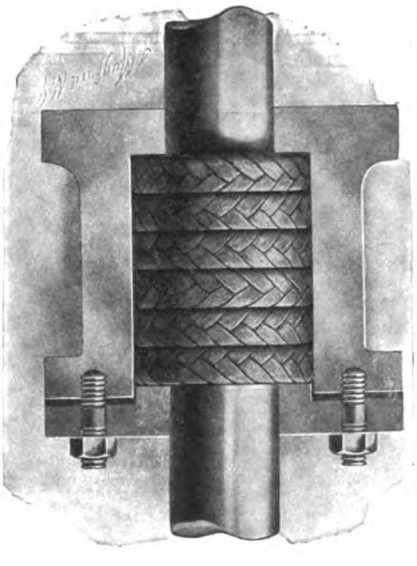


Taylor Water Tube Boiler Co.

345 Franklin St.

DETROIT - MICHIGAN

DUVAL METALLIC PACKING



is a woven packing made of fine white alloy wire accurately plaited in square form. It is especially adapted for superheated steam and high pressure steam and water.

Easily first among packings, as are **Foster Superheaters** among superheaters.

POWER SPECIALTY COMPANY

NEW YORK BOSTON
CHICAGO PHILADELPHIA SAN FRANCISCO

Generated on 2024-09-12 07:38 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

THE BABCOCK & WILCOX CO

NEW YORK AND LONDON

Forged Steel Water Tube Marine Boilers and Marine Superheaters

STRAIGHT TUBES ACCESSIBLE EXPANDED JOINTS

LEADING WATER TUBE BOILER FOR NAVAL AND MERCHANT MARINE SERVICE

DURABLE ECONOMICAL

WORKS:

BAYONNE, NEW JERSEY, U. S. A. RENFREW, SCOTLAND. PARIS, FRANCE OBERHAUSEN, GERMANY

FALLS HOLLOW STAYBOLTS

ANY SIZE, OUTSIDE OR INSIDE DIAMETER. AVERAGE LENGTH OF HOLLOW BARS EIGHT TO TEN FT.

BOTH HOLLOW AND SOLID, MADE OF BEST QUALITY DOUBLE REFINED CHARCOAL IRON OR STEEL. CUYAHOGA FALLS, O. U.S.A.

FALLS HOLLOW STAYBOLT Co.

STAYBOLTS ARE DANGEROUSLY REDUCED IN STRENGTH IN THE PROCESS OF TELL-TALE DRILLING. HOLLOW STAYBOLTS HAVE THE TELL-TALE HOLE ROLLED IN THE BAR. IN SERVICE RENDERS ABSOLUTE SAFETY AND GREAT ENDURANCE.

Send for important Literature and Prices — Falls Hollow Staybolt Co. Cuyahoga Falls, - - - Ohio

STAYBOLT IRON A SPECIALTY

Detail Drawings of a Four Furnace Single End Scotch Boiler

together with Diagrammatic Pipe and Auxiliary Plan used in connection with a 1250 H.P. TRIPLE EXPANSION ENGINE, WITH KEY, naming and describing every part of the engine. Price, $1.00 Postpaid.

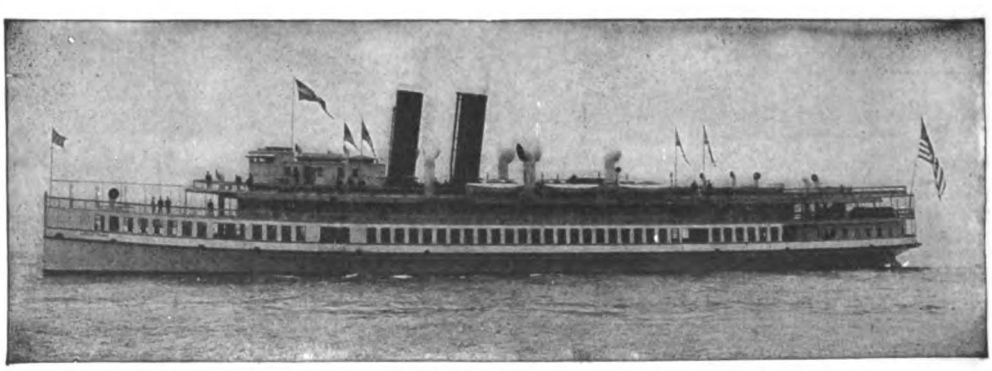
INTERNATIONAL MARINE ENGINEERING

17 Battery Place, New York City — 31 Christopher Street, Finsbury Square, London, E. C., England

THE ROBERTS WATER TUBE BOILER

For High Class Marine Service

Twenty-five years in use and still a success



STEAMER ASBURY PARK EQUIPPED WITH NINE ROBERTS BOILERS

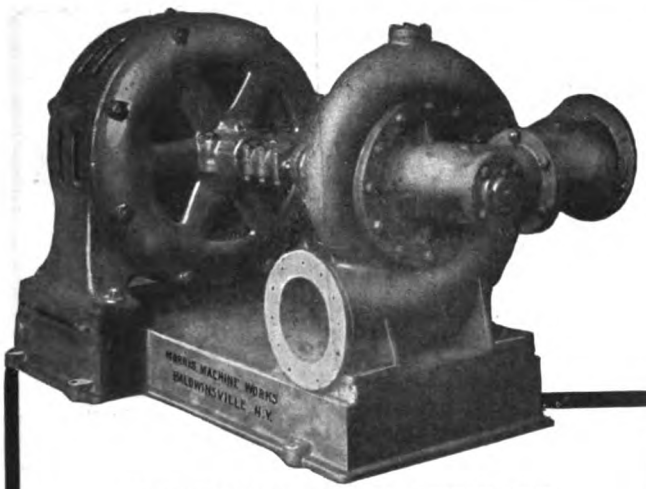
THE PIONEER BOILER OF ITS TYPE

THE ROBERTS SAFETY WATER TUBE BOILER CO.

112 and 114 Chestnut Street

PHONE, 49 RED BANK — RED BANK, N. J.

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



DIRECT CONNECTED MOTOR DRIVEN PUMP

Centrifugal Pumping Machinery

FOR

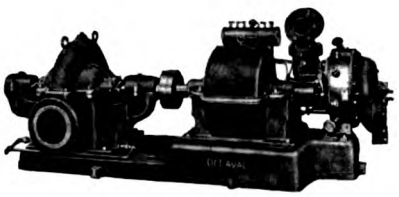
Circulating, Dredging and Wrecking Belt Driven or Direct Connected Marine Engines

42 YEARS' EXPERIENCE CATALOGUE FREE

Morris Machine Works

Baldwinsville, N. Y.

DE LAVAL

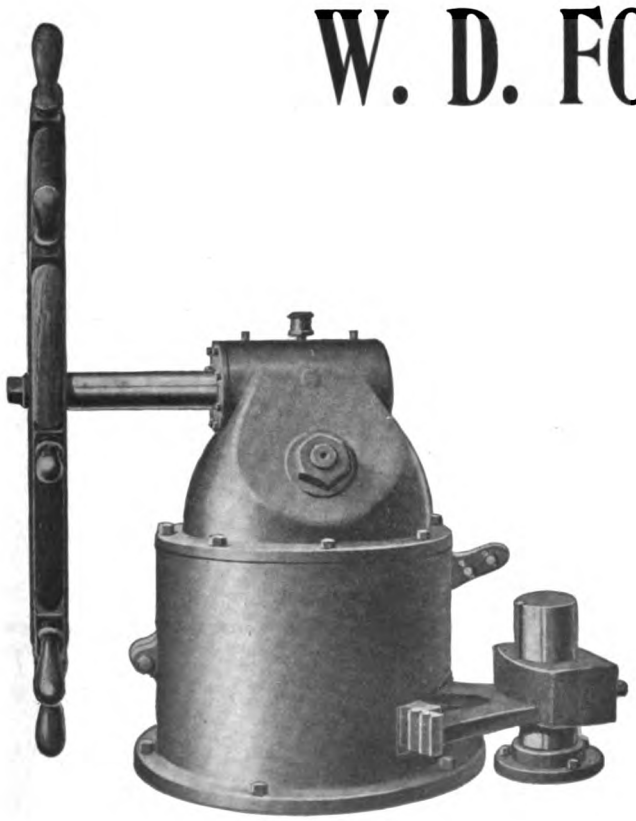


De Laval Steam Turbine-driven Centrifugal Pumps are used in marine installations, for condenser circulation, distilation, handling ballast and for general service. Low steam consumption and high pump efficiency make them particularly desirable.

SEND FOR CATALOG 46

DE LAVAL STEAM TURBINE CO., Trenton, N. J.

W. D. FORBES MFG. CO.



are manufacturers of Steering Gears and auxiliaries, and this illustration shows their latest Hand Steering Gear, which is something unique, compact, and substantial.

Write us for prices and particulars.

W. D. FORBES MFG. CO.

NEW LONDON, CONN.

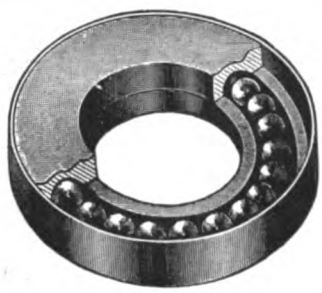
Generated on 2024-09-12 07:33 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

THE ONLY

Propeller Thrust

WE MAKE THE BEST

THRUST



BEARINGS

Bantam Anti-Friction Co.

BANTAM, CONN., U. S. A.

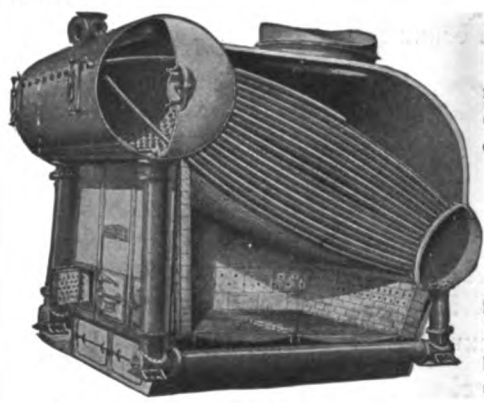
The Chas. A. Strelinger Co., Detroit, Mich.

DISTRIBUTERS.

MOSHER WATER TUBE BOILERS

Type A

Over 100,000 H.P. in use in United States, Russian, Mexican and Brazilian Navies, Commercial Vessels and Fast Yachts. Any tube can be replaced without disturbing any other tube. Forty tubes can be removed through one hand hole. Curvature of tubes just sufficient to avoid expansion troubles and not interfere with circulation.



Type B

Greatest facility for repairs and also for cleaning interior and exterior of tubes.

No screwed joints.

No cast parts.

All wrought material.

Largest grate surface for floor space. Lightest, most compact and easiest steaming boiler made.

MOSHER WATER TUBE BOILER CO.

30 CHURCH ST. - - - NEW YORK

IN THE BUSINESS CENTER

It Will Pay You to be Represented

. . . The Exhibition Department of the BOURSE presents an opportunity to Marine Engine and Boat Builders to maintain a permanent exhibit in the business center of the city, where they will come in contact with Buyers from all over the country. Address . . .

THE BOURSE, Phila.

FOR

MARINE MACHINERY

ADDRESS

MARINE IRON WORKS

CLYBOURN AND SOUTHPORT AVES., CHICAGO, U. S. A.

BUILDERS OF

TRIPLE EXPANSION, FORE AND AFT AND STEEPLE COMPOUND STERN AND SIDE PADDLE-WHEEL MARINE ENGINES

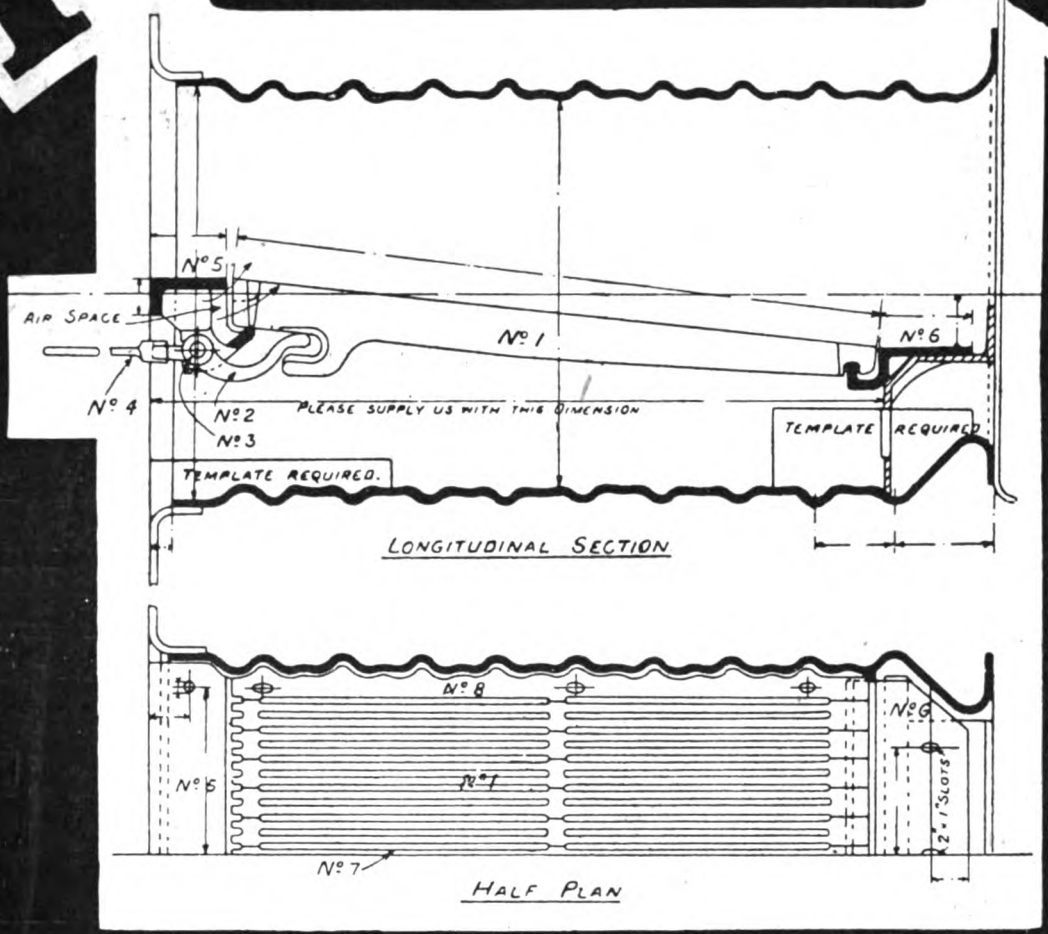
STEEL BOATS BUILT FOR SHIPMENT IN THE "KNOCK-DOWN"

Generated on 2024-09-12 07:32 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google

Digitized by Google

Original from UNIVERSITY OF MICHIGAN

Furnace Bars



WILLOCK, REID & CO. LTD.

109, Hope St., **GLASGOW.** 52, Queen Victoria St., **LONDON.**

Telegrams: "SYSTEMATIC," GLASGOW. Telegrams: "SYSTODON," LONDON.

ANOTHER SPECIALITY:

FILTERS

for preventing oil and grease entering boilers.
for purifying feed water from muddy rivers, &c.
for purifying water used in manufacture of fine fabrics, &c.
for domestic purposes, treating 1,200 galls. per hour upwards.

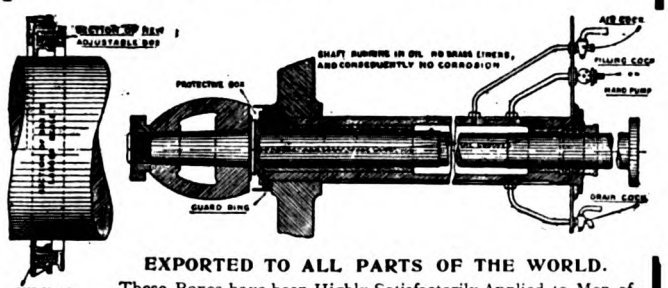
When writing to advertisers, please mention INTERNATIONAL MARINE ENGINEERING.

Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

CEDERVALL'S PATENT

PROTECTIVE LUBRICATING BOXES

For Propeller Shafts.



EXPORTED TO ALL PARTS OF THE WORLD.

These Boxes have been Highly Satisfactorily Applied to Men of War of several Nations and Merchant Steamers (with shafts ranging from 3in. to 18½in. in diameter).

Old Stern Tube Arrangements can be altered for application of this Lubricating Box at a very Nominal Cost.

MANUFACTURERS:

F. R. CEDERVALL & SÖNER,

GOTHENBURG (Sweden).

Also Manufacturers and Exporters of **Special Oil** for **Stern Tubes.** This Oil is warranted to be about **Three Times** more effective than any other **Oil** for this purpose in the Market.

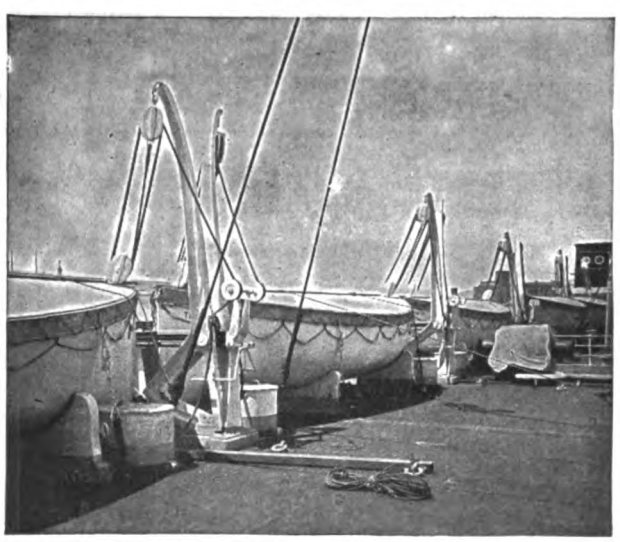
Price List and Particulars on application.

DRYAD FURNITURE

COMFORT. QUALITY. DESIGN.

Dryad Furniture is quite different from ordinary furniture in material, beauty, restfulness and strength, having originated not only new design, but new methods of workmanship, avoiding the old flimsiness of construction and having no plaits or braids tacked on which come loose and tear the clothes. These make it the —— PREMIER FURNITURE FOR SHIPS. ——

Illustrated Catalogues or special designs post free from the maker, H. H. PEACH, J Dept., 13, Gt. Central St., LEICESTER.



QUADRANT DAVITS ON S.S. "TENYO MARU."

— OVER —

2,700

DAVITS SUPPLIED OR ON ORDER.

THE

"WELIN QUADRANT" DAVIT.

ADOPTED AMONG OTHERS BY—

Allan Line	Hamburg-America Line
Austrian Lloyds	Holland-America Line
Compagnie Generale Transatlantique	Messageries Maritimes
Chargeurs Réunis	Norddeutscher Lloyd
Fratelli Cosulich	Toyo Kisen Kabushiki Kaisha

etc., etc., etc., and by several Governments.

AXEL WELIN, A.I.N.A.

5, LLOYD'S AVENUE,

LONDON, E.C.

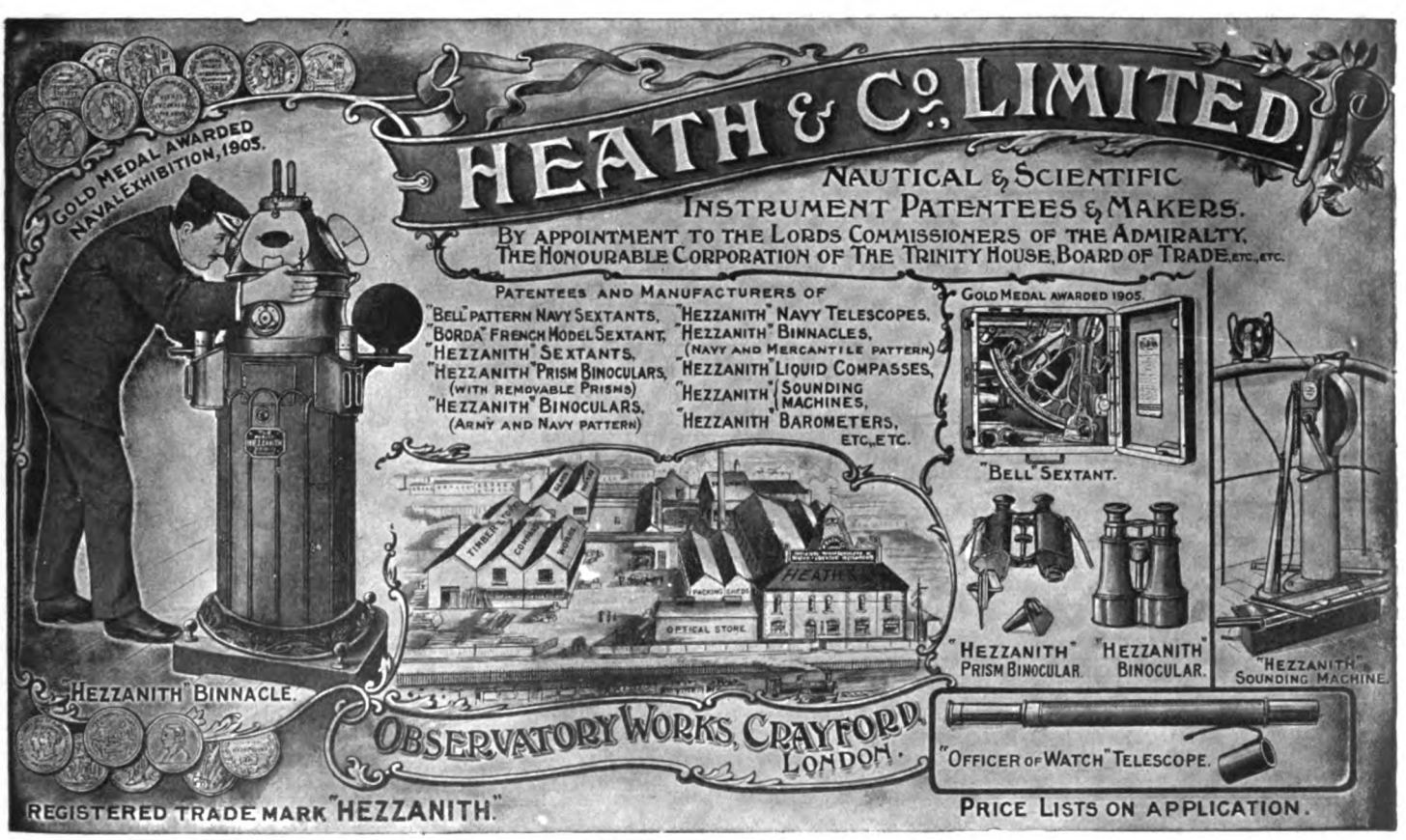
Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

HASTIE'S
STEAM STEERING GEAR

SHOULD BE FITTED IF YOU WANT THE BEST.

JOHN HASTIE & Co. LTD.,
Kilblain Engine Works,
GREENOCK.

Telegrams: "HASTIE, GREENOCK."


HEATH & Co., LIMITED.
NAUTICAL & SCIENTIFIC INSTRUMENT PATENTEES & MAKERS.
BY APPOINTMENT TO THE LORDS COMMISSIONERS OF THE ADMIRALTY, THE HONOURABLE CORPORATION OF THE TRINITY HOUSE, BOARD OF TRADE, ETC., ETC.
GOLD MEDAL AWARDED NAVAL EXHIBITION, 1905.
PATENTEES AND MANUFACTURERS OF
"BELL" PATTERN NAVY SEXTANTS.
"BORDA" FRENCH MODEL SEXTANT.
"HEZZANITH" SEXTANTS.
"HEZZANITH" PRISM BINOCULARS, (WITH REMOVABLE PRISMS)
"HEZZANITH" BINOCULARS, (ARMY AND NAVY PATTERN)
"HEZZANITH" NAVY TELESCOPES.
"HEZZANITH" BINNACLES, (NAVY AND MERCANTILE PATTERN)
"HEZZANITH" LIQUID COMPASSES.
"HEZZANITH" SOUNDING MACHINES.
"HEZZANITH" BAROMETERS, ETC., ETC.
GOLD MEDAL AWARDED 1905.
"BELL" SEXTANT.
"HEZZANITH" BINNACLE.
"HEZZANITH" PRISM BINOCULAR.
"HEZZANITH" BINOCULAR.
"HEZZANITH" SOUNDING MACHINE.
OBSERVATORY WORKS, CRAYFORD, LONDON.
"OFFICER OF WATCH" TELESCOPE.
REGISTERED TRADE MARK "HEZZANITH."
PRICE LISTS ON APPLICATION.

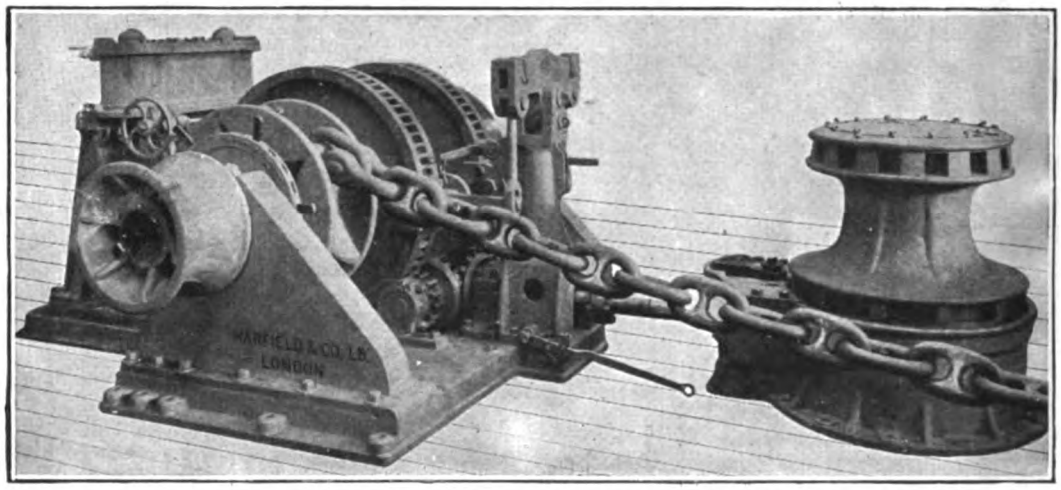
Generated on 2024-09-12 07:35 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

HARFIELD & Co.,

Contractors by Appointment to the Admiralty, War Office, and Colonial & Foreign Governments.

Telegraphic Address:—"HARFIELD, LONDON."

Patentees and Manufacturers of
Windlasses, and Cable & Warping Capstans for all classes and sizes of ships; also Patent Compensating and Screw Steering Gears.



Windlass & Warping Capstan as fitted to the Peninsular & Oriental and other Companies' Mail Steamers.

HARFIELD & Co., ARUNDEL HOUSE, VICTORIA EMBANKMENT, LONDON.

Gas Engines and their Troubles

By E. W. ROBERTS

WITH chapters on the design and construction of Launch hulls and the proper design of propellers, by Prof. W. F. Durand. This is the most practical and useful book ever published regarding subject of launches propelled by explosive engines.

Price $1.50 Postpaid

INTERNATIONAL MARINE ENGINEERING
17 Battery Place, New York City
Christopher Street, Finsbury Square, London, E. C.

INGOT METALS FOR MARINE ENGINEERING

AND ALL OTHER PURPOSES

WE MAKE EVERY description of INGOT METALS to analysis for Admiralty purposes. Gun Metal, Yellow Metal, Bush Brass, etc.; ordinary INGOT METALS for Engineering Purposes.

ARE YOU SATISFIED that you are obtaining the best prices for SCRAP METAL?

SEND US YOUR ENQUIRIES.

Brass and Copper Ashes; Brass and Copper Scrap; Borings Dust; Sweepings, etc., and every description of Metallic Residues PURCHASED.

PARK & PATERSON, LTD.

Chief Office and Works:
PARKHEAD, GLASGOW.
(Established 1872.)

Telegrams: "CUPRUM, GLASGOW." | Telephones: 2679 BRIDGETON, GLASGOW. P.O. Y 198 (2 lines).

— Branch Works: —
ST. SIMON STREET, SALFORD, MANCHESTER.
Telegrams: "CUPRUM, MANCHESTER." Telephone: 4625.

NOW READY. 3rd Edition. RE-WRITTEN UP-TO-DATE AND ENLARGED

'THE MARINE STEAM TURBINE'

By J. W. SOTHERN, M.I.E.S.

Contains comprehensive illustrated descriptions of the Parson's and Curtis type Marine Turbines, together with constructive and general practical data.

200 ILLUSTRATIONS.

Price 12/6 *net*.

NOW READY. **6th Edition.** Revised and greatly enlarged.

"VERBAL NOTES & SKETCHES"

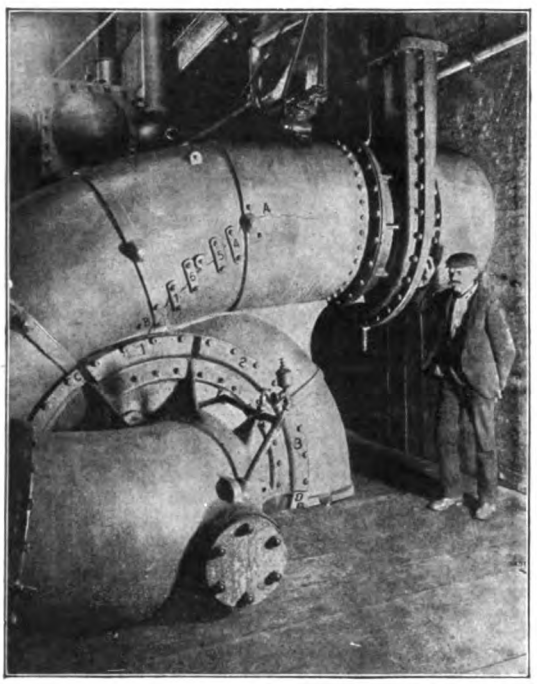
FOR MARINE ENGINEERS

By J. W. SOTHERN, M.I.E.S.

Section 1. Boilers.
2. Engines.
3. General Notes.
4. Indicator Diagrams.
5. Refrigeration.
6. Electric Lighting.
7. Propellers.
8. Oil Motors.

Price 7/6 net.

Generated on 2024-09-12 07:35 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



Smooth-On Iron Cement

Repaired This Pump Six Years Ago and It's Running Yet!

The engineer in charge says:—"For over four years I have used your Smooth-On Iron Cement No. 1 and have found it to be as good as a new casting when used to repair breaks in castings. I have found it to make steam joints tight, when everything else failed. I have used it in porous castings that had to stand 180 pounds steam pressure. I have used it on steam pipes that leaked, and will say that I have never had any trouble with anything I have repaired with it."

Smooth-On has proved, beyond any doubt, its great value as a repairing agent in the power plant. It is easily applied as a paste or putty, and it expands in metallizing thereby making a joint whose tightness is permanent.

Don't use any other cement because it's cheap; use Smooth-On because it does the business perfectly.

Send for Catalog and Prices

SMOOTH-ON MANUFACTURING COMPANY

JERSEY CITY, N. J., U. S. A.

ENGLISH BRANCH: 8 WHITE ST., MOORFIELDS, LONDON, E. C.
Walter P. Notcutt, Manager

Chicago Warehouse: 231 N. Jefferson St. **San Francisco Warehouse: 20 Sacramento St.**

Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

DOCK
600 feet long on top
580 " " " bottom
30 " water on the sill
85 " wide at entrance
Repair shop equipped with modern tools: compressed air, 54 ft. rolls, etc.

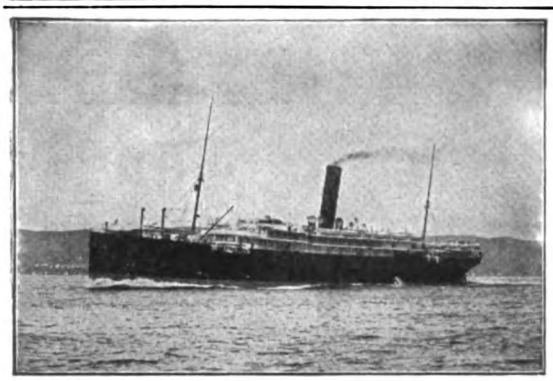
Halifax Graving Dock Co., Limited
HALIFAX, NOVA SCOTIA
TELEGRAPHIC ADDRESS
"DOCK, HALIFAX"

FOUR SLIPWAYS
Having capacities up to 3000 tons
Salvage pumps kept ready for immediate use

COMPOSITE BOARD

Specially adapted for panels, ceilings or wherever large jointless surfaces are desirable. Cut to dimension and furnished ready for decorating—Maximum size of panels 7 feet by 13 feet—Absolutely fire proof. Has been successfully used by every prominent Ship Building Company in the United States.

MANUFACTURED BY **THE COMPOSITE BOARD COMPANY**
General Office, 50 Church St., New York City **Factory, Niagara Falls, N. Y.**



Pacific Steam Navigation Co.'s SS. "Orcoma."

Boilers, Cylinders, and all Pipes covered by MATTHEW KEENAN & Co., Ltd.

KEENAN'S PATENT NON-CONDUCTING COMPOSITION

The best covering for high pressure and superheated steam.
KNOWN AND USED ALL OVER THE WORLD. GOLD MEDAL NAVAL EXHIBITION, LONDON, 1905.

We are Makers of all kinds of
COVERINGS FOR BOILERS, STEAMPIPES, REFRIGERATING PLANTS, ETC

ON ADMIRALTY LIST.

Contractors to the War Office, H.M. Office of Works, India Office, Metropolitan Water Board and Asylums Board, London County Council. The principal Shipowners, Shipbuilders, Railways, Engineers and Electric Light Co.'s, etc.

MATTHEW KEENAN & Co., Ltd., ESTABLISHED 1858.
TREDEGAR ROAD, BOW, LONDON, E., AND 80 GREAT WELLINGTON STREET, GLASGOW.

Telegrams: "Keenanite, London." *Telegrams: "Keenanite, Glasgow."*
Telephone: 3485 East. *Telephone: 2063 South.*

LIQUID FUEL

Specially suitable for the

Mercantile Marine

by the use of which
NO STOKERS or TRIMMERS . . . ARE REQUIRED. . . .

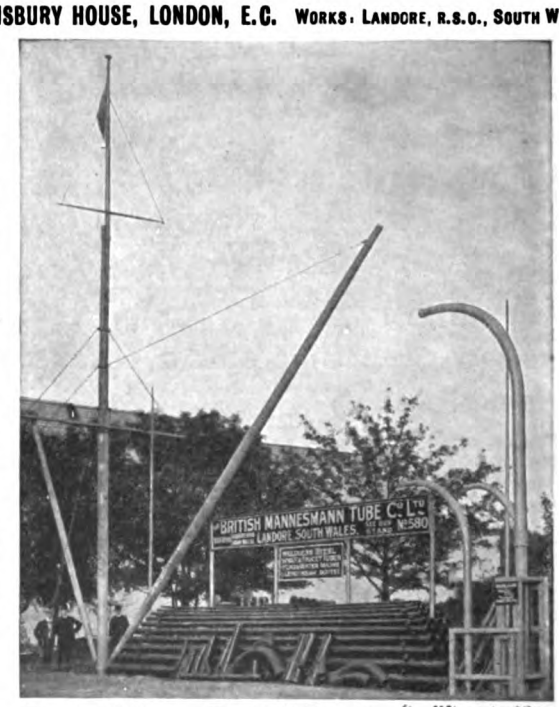
Full Particulars on application.

BRITISH PETROLEUM COMPANY, LIMITED,
22, FENCHURCH STREET, LONDON, E.C.

The British Mannesmann Tube Co. Ltd.

SALISBURY HOUSE, LONDON, E.C. WORKS: LANDORE, R.S.O., SOUTH WALES.

Highest Awards at Franco-British Exhibition, 1908.



Two Grand Prizes, One Diploma of Honour, One Gold Medal.

Deck Pillars, Boats' Davits (to lift up to 10 tons or over).
Derricks (to lift up to 40 tons or over); **also Masts & Defence Booms** up to 60 ft. long and over.

Perfect Substitutes for Solid Articles. **Made of MANNESMANN WELDLESS STEEL TUBES.** Light, Reliable, Economical

Generated on 2024-09-12 07:29 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

SEAMLESS STEEL MOTOR LAUNCHES and LIGHTERS.

SEAMLESS STEEL LAUNCH, 25-0 × 6-3 × 2-9.

In Sizes to suit.

ANY MAKE OF ENGINE FITTED.

SOLE MAKERS:

THE SEAMLESS STEEL BOAT CO.,

LIMITED,

WAKEFIELD, ENGLAND.

MARINE ENGINEERING WORKS

Published by THOMAS REED & CO. Ltd. 184 High Street West, SUNDERLAND, England.

REED'S ENGINEERS' HAND BOOK TO THE EXAMINATIONS FOR CERTIFICATES OF COMPETENCY as First and Second Class Engineers. By W. H. THORN & SON. **With the Elementary Questions (310) and Answers.** Illustrated by 402 Diagrams and 38 Large Plates by the Authors. This Book is not only a complete and up-to date Hand Book to the Examinations but is also a valuable Cyclopædia of information on Marine Steam Machinery. NINETEENTH EDITION, **14s.** Net, Post **14s. 6d.**

THE KEY TO REED'S ENGINEERS' HAND BOOK containing the Working of all the Questions given in the Examination Papers. No Purchaser of "REED'S ENGINEERS' HAND BOOK" should be without the "KEY." **7s. 6d.** Nett, Post **7s. 9d.**

REED'S NEW (310) ELEMENTARY QUESTIONS REQUIRED AT THE EXAMINATIONS OF MARINE ENGINEERS, WITH ANSWERS, by W. H. THORN, Member of the N.E.C. Institute of Engineers and Shipbuilders. With 119 Diagrams. **2s. 6d.** Net, Post **2s. 9d.**

REED'S GUIDE TO EXTRA FIRST-CLASS EXAMINATIONS FOR ENGINEERS. By W. H. THORN, Member of the N.E.C. Institute of Engineers and Shipbuilders. Containing 350 Problems fully worked out, also 188 Diagrams, 13 Large Plates, and Appendices on Logs, Trigonometry, Calculus, &c. Fourth Edition. 550 pages. **18s.** Net, Post **18s. 6d.**

REED'S USEFUL HINTS TO SEA-GOING ENGINEERS, AND HOW TO REPAIR AND AVOID "BREAKDOWNS." Also Appendices containing Boiler Explosions, Useful Formulæ, &c. With 50 Diagrams and 8 Plates. Revised and Enlarged. **3s. 6d.** Net, Post **3s. 9d.**

REED'S MARINE BOILERS, THE CAUSES AND PREVENTION OF PRIMING, with Remarks on their General Management, and Notes on Water Tube Boilers, by HENRY T. DAVIS (TRIPLEX). With 79 Illustrations. Re-written and Enlarged. **4s. 6d.** Net, Post **4s. 9d.**

REED'S GUIDE TO MANAGEMENT of YACHT, TRAWLER, AND LAUNCH ENGINES, INCLUDING DECK AND AUXILIARY MACHINERY, by J. DENHOLM-YOUNG, M.I.N.A. Illustrated by 12 Plates and 120 Diagrams. **6s.** Net, Post **6s. 3d.**

Complete Catalogue (Post Free) on application to THOMAS REED & CO. Ltd. 184 High Street West, SUNDERLAND, England.

BOOKS FOR ENGINEERS.

TOD & McGIBBON'S

ELEMENTARY QUESTIONS AND ANSWERS

For Marine Engineers' Board of Trade Examinations. Containing the new questions on Oil Motors and Ash Ejectors, etc.

Price 3s. net.

SIMPLE PROBLEMS IN MARINE ENGINEERING DESIGN.

(Including Turbines.)

By J. W. SOTHERN and R. M. SOTHERN.

Shows the application and transposition of Board of Trade and other formulæ required in various calculations of Engineering Design. **Price 2s. 6d. net.**

INDICATOR DIAGRAMS FOR MARINE ENGINEERS.

By W. C. McGIBBON, M.I.E.S.

Fully Illustrated and explained with 200 Diagrams. The best book on this subject yet published, and the only book dealing solely with marine work.

Price 7s. 6d. net.

SIXTH EDITION. REVISED AND ENLARGED.

VERBAL NOTES AND SKETCHES FOR MARINE ENGINEERS.

By J. W. SOTHERN, M.I.E.S.

Price 7s. 6d. net.

DRAWING BOOK FOR MARINE ENGINEERS.

By W. C. McGIBBON, M.I.E.S.

This Book has been thoroughly revised and brought up-to-date, and is indispensable to those going up for the First-Class Certificate.

Price 3s. 6d. net.

BOARD OF TRADE ARITHMETIC FOR FIRST CLASS ENGINEERS.

By PETER YOUNGSON, Extra Chief Engineer.

Most complete and up-to-date. **Price 3s. net.**

PRACTICAL MATHEMATICS FOR ENGINEERS.

By F. HOVENDEN.

All young apprentices intending to become Engineers should secure a copy of the book, as it is especially arranged to suit them.

Price 2s. 6d. net.

SLIDE VALVE MOTION FOR MARINE ENGINEERS.

By PETER YOUNGSON.

Now Ready. Price 5s. net.

HINTS TO ENGINEERS FOR THE BOARD OF TRADE EXAMINATIONS.

(Fully Illustrated with Diagrams.)

By W. D. MARTIN, M.I.E.S. Price 2s. 6d. net.

MECHANICAL AND MARINE ENGINEERING SCIENCE.

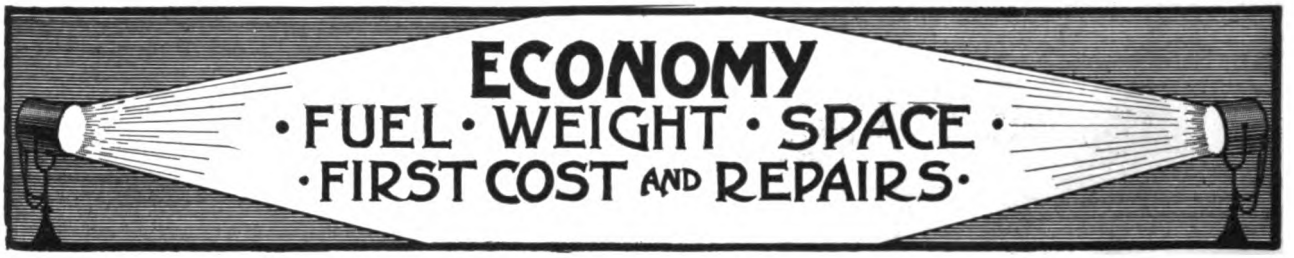
By A. N. SOMERSCALES.

(Essays, Problems, Demonstrations.) Specially written as a Handbook to the Board of Trade Examinations for Extra-First-Class Engineers.

Price 12s. 6d. net.

Published by JAMES MUNRO & CO. LTD., Engineering & Nautical Publishers, 101, KING ST., TRADESTON, GLASGOW.

Generated on 2024-09-12 07:33 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



Straub Two-Cycle Scavenging Marine Engines

USING GASOLINE AND PRODUCER GAS
25 to 200 H.P. Air Starting and Reversing

THE MARINE ENGINE DEVELOPMENT of the DECADE

Air only and in large excess is compressed in the base and admitted through a mechanically operated inlet valve in the cylinder head just as the piston uncovers the exhaust port, which extends nearly around the full circumference of the cylinder, The scavenging or blowing out of the burnt gases is practically complete before the explosive mixture is admitted, the gas (gasoline gas or producer gas) being separately compressed in an annular space under the working cylinder.

Result: A clean, sweet charge of tremendous power and efficiency and in all respects equal to the best four-cycle practice with the exclusive advantage of the same power on less weight and space, greater simplicity, less vibration, less first cost, and cost of repairs.

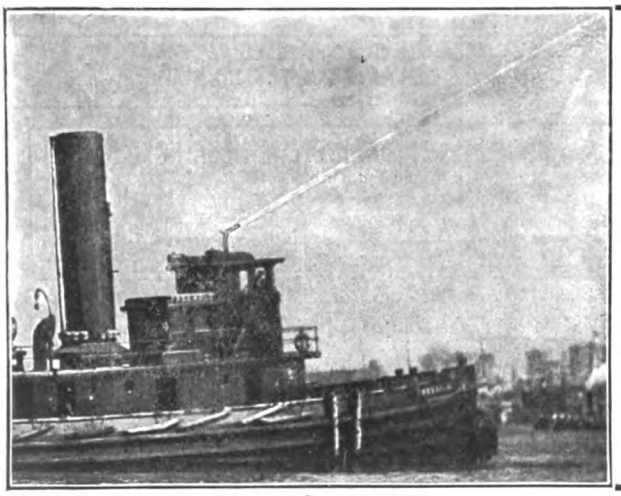
Unsurpassed for Seagoing Yachts, Auxiliaries and Commercial Vessels of Every Description

WRITE FOR FULL INFORMATION

PAGE ENGINEERING COMPANY

BALTIMORE, U. S. A.
113-121 E. YORK ST.

BUILT IN BALTIMORE —— WILL RUN ANYWHERE



LET US SEND YOU A

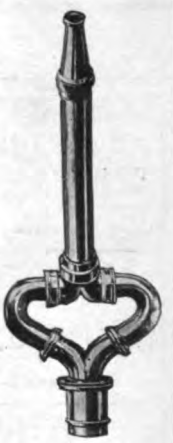
GLAZIER UNIVERSAL NOZZLE

ON TRIAL

This is a flexible nozzle for stationary pipe or hose connection, and is specially designed FOR MARINE USE.

It can be turned in any direction and will remain in position without attendance. Has many other attractive features.

Send for Catalog and full particulars



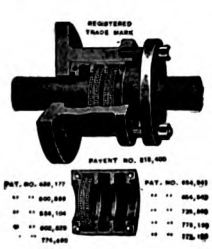
SOLE LICENSEES

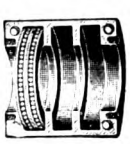
S. F. HAYWARD & CO.

ESTABLISHED 1868

39 PARK PLACE NEW YORK

Anything and Everything for Fire Protection





When in need of Packing, why not get the best? Read below, "Nuff" said

Philadelphia, May 16, 1905.
The Holmes Metallic Packing Co.,
Wilkes-Barre, Pa.

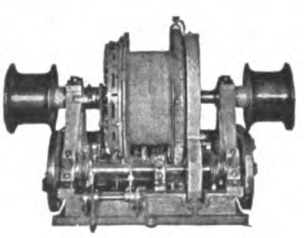
Gentlemen:—We have had in use, one of your metallic packings, on our one hundred and twenty-five horse power engine, for about eight years and it has given entire satisfaction. We have nothing but the highest praise for it, and have never, in any way, had any trouble with it. Yours very truly, QUERNS BROS.

Now in use eleven and one-half years.

30 Days' Trial, 3 Years Guarantee
Once Used, Always Used

HOLMES METALLIC PACKING CO.
WILKES-BARRE, PA.

LIDGERWOOD



Ship's Winches and Steering Engines

Improved Designs
Built on Duplicate Part System

Improved Metallic Slip Friction Winch

More Than 32,000 Engines Built and In Use

LIDGERWOOD MFG. CO., 96 Liberty St., New York

Generated on 2024-09-12 07:41 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

THE BRIDGEPORT "A MOTOR THAT MOTES"
BRIDGEPORT MOTOR COMPANY
Send for "Motor Facts." BRIDGEPORT, CONN., U. S. A.

WE SELL ALL BOOKS ON MARINE ENGINEERING NOT OUT OF PRINT
INTERNATIONAL MARINE ENGINEERING
London: Christopher Street, Finsbury Square, E. C. New York: Whitehall Building, 17 Battery Place

The Propeller is the Most Important Part of Your Boat
THE BEST IS NONE TOO GOOD
ADJUSTABLE PITCH and REMOVABLE BLADE PROPELLERS
WILLIAM T. DONNELLY, 135 Broadway, New York
WRITE FOR CATALOGUE

"STANDARD" MOTORS

Tug Petrolia No. 3. Owned by Standard Oil Co.
Equipped with 75 H. P. Standard Motor.

For Commercial Service

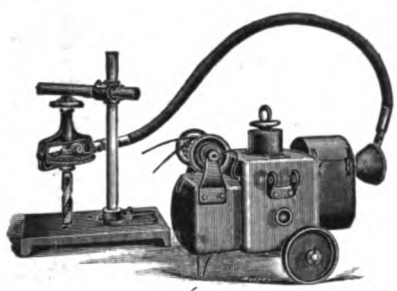
Are now being used in Coastwise Schooners, Fishing Schooners, Tow Boats, Oyster Dredge Boats, Freight and Passenger Service.

Built in sizes from 12 to 2,000 H. P.

We invite correspondence as to your requirements; are always pleased to submit estimates, etc.

WRITE FOR CATALOGUE

THE STANDARD MOTOR CONSTRUCTION CO.
No. 180 WHITON ST., JERSEY CITY, N. J., U. S. A.

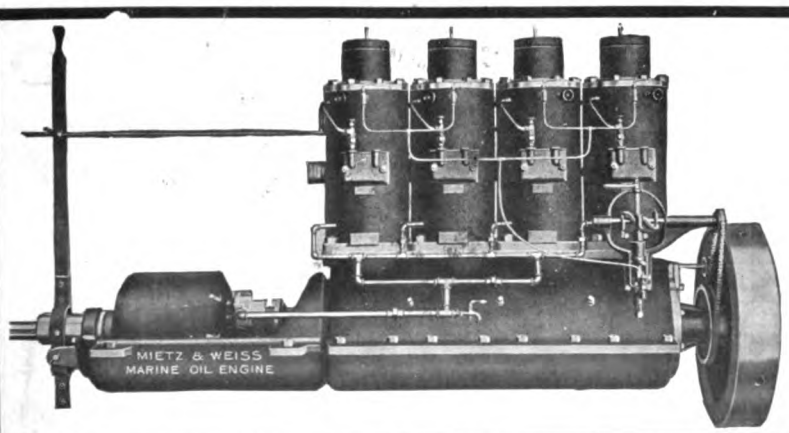


SELIG SONNENTHAL & CO.
35 Queen Victoria Street
London, Eng.

STOW MFG. CO., BINGHAMTON, N. Y.
Established 1875
INVENTORS AND LARGEST MFRS. IN THE WORLD OF THE
STOW FLEXIBLE SHAFT
FOR ALL PURPOSES

Our Combination of FLEXIBLE SHAFT and MULTI-SPEED ELECTRIC MOTOR is almost indispensable on any vessel having an Electric Current, for portable DRILLING, TAPPING, REAMING, etc. It can be easily transported to any part of the same, and repairs made in a fraction of the time required by hand. Correspondence solicited.

WRITE FOR CATALOGUE AND PRICE LIST

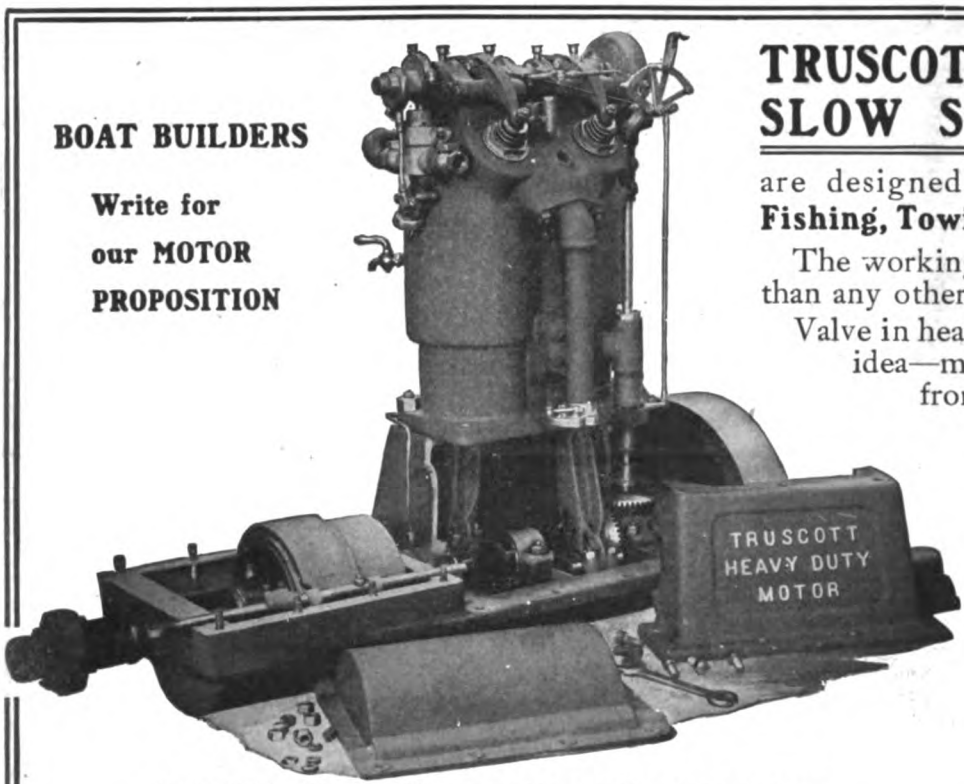


MARINE OIL ENGINES
2 to 200 H. P.
Simplest, Safest and Most Reliable Marine Engines on the Market
Use Kerosene, Fuel Oil, Crude Oil, and Alcohol
OVER 75,000 H. P. IN OPERATION
OIL ENGINES FOR STATIONARY POWER PURPOSES
SEND FOR CATALOGUE
A. MIETZ
128-138 Mott St. New York
SELLING AGENTS:
B. M. OSBUN CO., Commercial National Bank Bldg., Chicago, Ill.
NORTHWESTERN IRON WKS., 1037-1041 Railroad Ave., S. Seattle, (Wash.
MR. F. E. DAVIS, 101 High St., Boston, Mass.

Generated on 2024-09-12 07:39 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

BOAT BUILDERS

Write for our MOTOR PROPOSITION



Two Cyl., 4 Cycle Truscott Heavy Duty, Showing Accessibility of Vital Parts

TRUSCOTT HEAVY DUTY SLOW SPEED MOTORS

are designed expressly for use in **Fishing, Towing and Passenger Boats**

The working parts are of easier access than any other.

Valve in head construction—the latest idea—means 15% greater power from a given cylinder measurement and gasoline consumption.

Two, Four and Six Cylinders, Bore 6 in., Stroke 7 in., each rated at 350 R. P. M.

No. 82½—2 cyl., 14 H. P., weighs 1,750 lbs.

No. 84½—4 cyl., 28 H. P., weighs 3,200 lbs.

No. 86½—4 cyl. 42 H. P., weighs 4,275 lbs.

We build 2, 4 and 6 cylinder, four cycle, "Medium Duty" motors, 6 to 108 H. P. for use in pleasure craft—open or cabined. Also a light weight high-speed motor for racing craft.

The Truscott four cycle motor is admirably adapted for use with producer gas because of its combustion chamber design.

In working boats, a Truscott heavy duty equipped for using gasoline, kerosene or distillate is a reliable and economical power, capable of giving uniformly perfect results day in and day out.

SEND FIVE STAMPS FOR CATALOG.

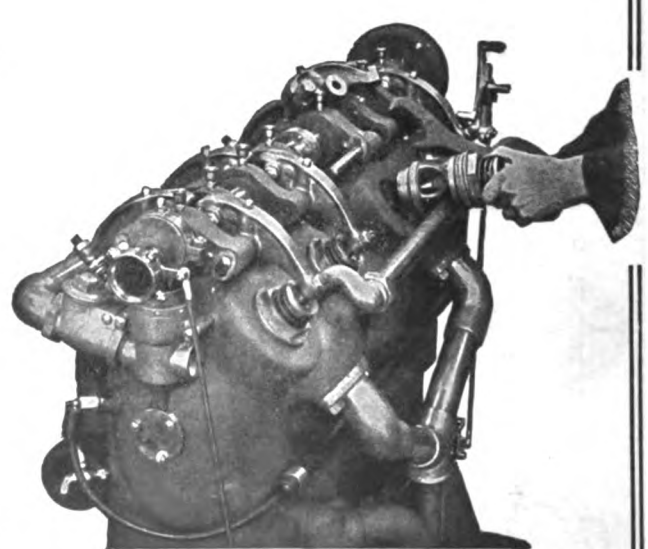
TRUSCOTT BOAT MFG. COMPANY

Box 600

ST. JOSEPH, MICHIGAN

BRANCHES
With Complete Stock

1675 BROADWAY - - - NEW YORK, N. Y.
37 HAVERHILL STREET - BOSTON, MASS.
1806 MICHIGAN AVENUE - - CHICAGO, ILL.

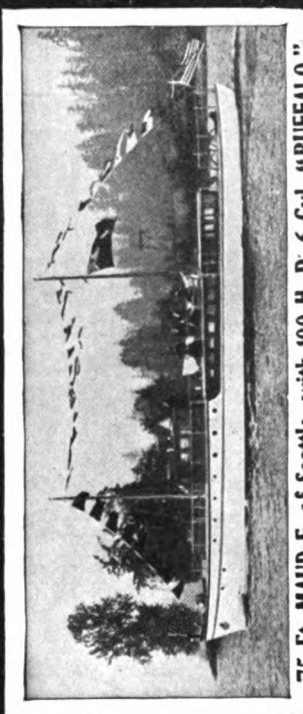


Showing Ease in Removing Valve Cage from Truscott Cylinder

Generated on 2024-09-12 07:29 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

"BUFFALO" MARINE ENGINES

AN ENGINE FOR ANY SORT AND SIZE OF BOAT



75 Ft. MAUD F, of Seattle, with 100 H. P. 6 Cyl. "BUFFALO."

REGULAR TYPE	HEAVY DUTY TYPE	SPEED TYPE
2 TO 100 H. P.	4 TO 64 H. P.	50 AND 75 H. P.
2 TO 6 CYL.	1 TO 6 CYL.	4 AND 6 CYL.

A NEW, IMPROVED "V" TYPE, 8-CYLINDER, EXTREMELY HIGH POWER SPEED ENGINE

BUFFALO GASOLENE MOTOR CO.

CREATORS AND SUSTAINORS OF "BUFFALO" QUALITY

1209-21 NIAGARA STREET BUFFALO, N. Y.

The reasons for the world-wide use of BUFFALO engines in cruisers, racers, fishing boats, launches, workboats and craft of every kind, are their proven capacity for work and wear, their mechanical perfection, their reliable, ever-ready, constant service and the unapproached BUFFALO quality that is in them. Write and let us tell you more about them.

SHERIFFS MANUFACTURING CO.

ESTABLISHED 1854

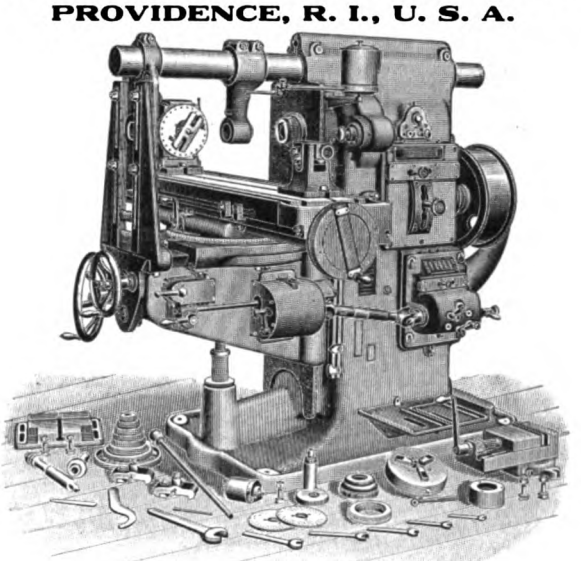
Marine Machinery and

Over 3,000 Sheriffs' Propeller Wheels made to date, of the best material and castings, give desired results.

MILWAUKEE, WIS., U. S. A.

BROWN & SHARPE MFG. CO.

PROVIDENCE, R. I., U. S. A.



THE QUALITY OF THE WORK

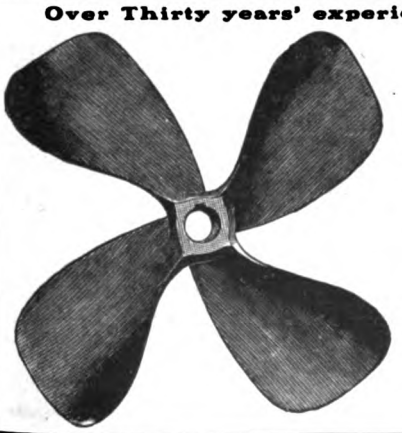
produced by the

No. 4 Heavy Universal Milling Machine

is unsurpassed because of the correct design and high class of workmanship of every part of the machine.

An attractive circular fully explains its important features. Send for a copy.

Over Thirty years' experience building



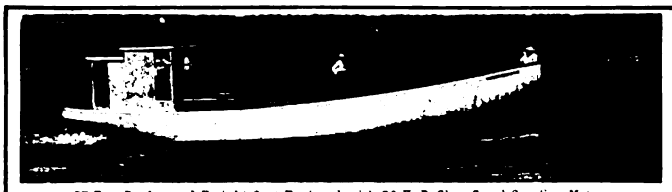
Engines and Propeller Wheels

H.G. TROUT CO.

King Iron Works

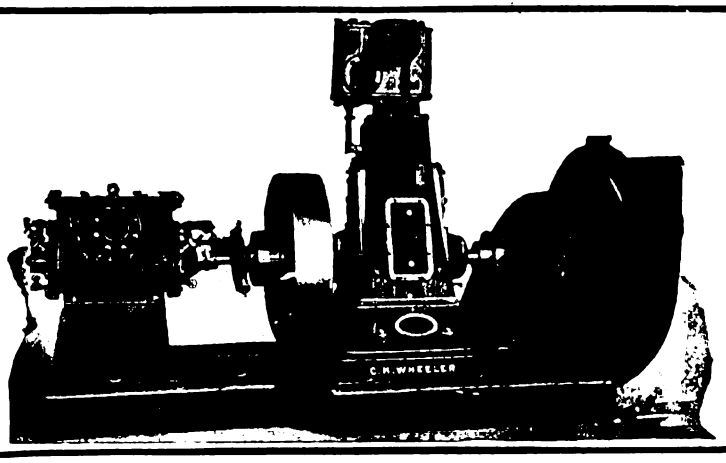
226 Ohio Street, BUFFALO, N. Y.

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN


57-Foot Dredge and Freight Boat Equipped with 36 H. P. Slow Speed Gasoline Motor.

TASKER & STRAWBRIDGE
NAVAL ARCHITECTS AND MARINE ENGINEERS
PENNSYLVANIA BUILDING PHILADELPHIA, PA.
Will promptly supply machinery, completed boat or plans and specifications for motor cruisers, fishing and freight boats, speed launches, small tugs, etc.
Surveys and Reports Construction Supervised
HEAVY DUTY SLOW SPEED GASOLINE MOTORS for heavy work

Detail Drawings of a Four Furnace Single End Scotch Boiler
together with Diagrammatic Pipe and Auxiliary Plan used in connection with a
1250 H.P. TRIPLE EXPANSION ENGINE, WITH KEY, naming and describing every part of the engine. Price, $1.00 Postpaid.
INTERNATIONAL MARINE ENGINEERING
17 Battery Place, New York City 31 Christopher Street, Finsbury Square, London, E. C., England



HIGH VACUUM APPARATUS
Surface and Jet CONDENSERS Suction Valveless AIR PUMPS Boiler Feed PUMPS
C. H. Wheeler Mfg. Co.
HEAD OFFICE AND WORKS, PHILADELPHIA
BRANCH SALES OFFICES AT
NEW YORK BOSTON CHICAGO SAN FRANCISCO

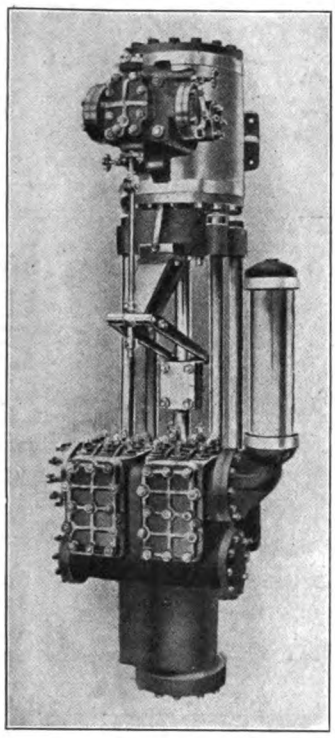
PATENT
That Invention
For information how to do it inquire of Delbert H. Decker, 900 F St., Washington, D. C. 24 years' experience in Patent and Trade Maker Matters.

OAKUM
BALTIMORE OAKUM CO.
BALTIMORE, MD.
Manufacturers of all grades of
MARINE AND PLUMBERS' OAKUM
For sale everywhere Established 1872

THE BOUND VOLUME OF
INTERNATIONAL MARINE ENGINEERING
FOR
JANUARY-DECEMBER, 1908, COSTS $4.00 (16/-)
Buyer Pays Express Charges
NEW YORK CITY, 17 BATTERY PLACE
LONDON, 31 CHRISTOPHER ST., FINSBURY SQUARE, E. C

The Tietjen & Lang Dry Dock Co.
HOBOKEN, N. J.
SHIPWRIGHTS, CAULKERS AND MACHINISTS
EIGHT MODERN DRY DOCKS
600, 800, 1,000, 1,200, 1,400, 1,800, 2,000 and 10,000 Tons
Telephone Call, 700 Hoboken Patent Adjustable Steel Blocks

Generated on 2024-09-12 07:35 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



BLAKE PUMPS

FOR

NAVAL AND MERCHANT MARINE

are the standards of the world.

They are installed on the largest and swiftest vessels.

Full information as regards sizes, specifications etc., for any pumping service can be had upon application.

Send for Catalogue I-106

THE BLAKE & KNOWLES STEAM PUMP WORKS

WORKS: EAST CAMBRIDGE, MASS.

MARINE DEP'T: 115 BROADWAY, N. Y. CITY, N. Y.

Koerting Bilge Syphons

Durability—small cost—simplicity of manipulation—absolute certainty of operation at all times is insured by the use of Koerting Bilge (steam) Syphons, for use on board ships as safety appliance in case of accident.

These syphons may be placed at bottom of ship, or if desired, at a higher level—anywhere within reach of suction—about 20 ft. Capacities 200 to 30,000 gal. and up per hour. Small sizes for bilge work and large sizes as emergency pumps in case of accident, or for wrecking purposes.

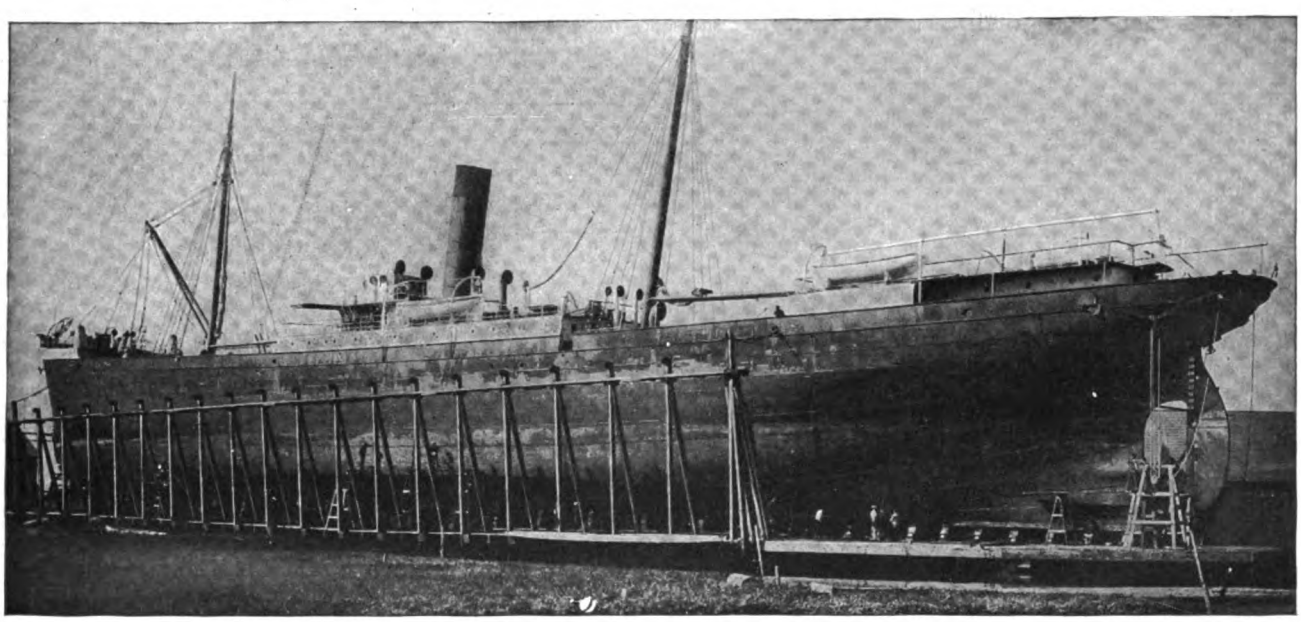
Write for Catalog 2-A

Schutte & Koerting Co.

12th and Tompson Streets, Philadelphia

New York, 50 Church St. Chicago, Security Building
Boston, 98 High Street Pittsburg, Keenan Building

RAILWAY DRY DOCKS

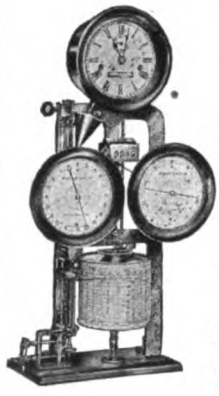


Designed and Built for all Classes and Types of Vessels

TIMBER AND STEEL CONSTRUCTION

H. I. CRANDALL & SON CO. ***EAST BOSTON, MASS.***

Generated on 2024-09-12 07:33 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



The NICHOLSON RECORDING SHIP LOG AND SPEED INDICATOR

Keeps the time of day and automatically shows the speed of the moment on a dial in miles or knots per hour and records the same on a chart. Also registers the number of miles or knots sailed.

Is used on many U. S. Battle Ships and by Steamships of all classes, Steam Yachts and Motor Boats. It has no trailing line overboard.

Send for descriptive catalogue.

NICHOLSON SHIP LOG CO.
Cleveland, Ohio

or to Eastern Agents, BARRETT & LAWRENCE, 662 Bullett Building, Philadelphia, Pa.

Pacific Coast Agents, WALLACE & WELCH, 110 Market Street, San Francisco, Cal.

Send for Catalogue M.E.

BOSTON & LOCKPORT BLOCK CO.
103 Condor St.,
EAST BOSTON, MASS.

We Sell all Books on Marine Engineering
Not Out of Print
INTERNATIONAL MARINE ENGINEERING
LONDON
Christopher Street
Finsbury Square, E. C.
NEW YORK
Whitehall Building
17 Battery Place

Elco MOTOR BOATS

GASOLINE AND ELECTRIC

We build all types of motor boats, from 16 feet to 120 feet in length, equipped with any gasoline engine offered by the market.

35-ft. **Elco Peerless,** speed 23 miles, equipped with 50-H.P. 6-cylinder Peerless Auto Marine Engine.

30-ft. **Elco Peerless,** speed 20 miles, equipped with 35-H.P. 4-cylinder Peerless Auto Marine Engine.

Highest Grade Material and Workmanship
Seventeen Years' Experience

The Electric Launch Company
Avenue A, BAYONNE, N. J.
27 minutes from Liberty St., or 23d Street Ferry, C. R. R. of N. J.

PROFESSIONAL CARDS

Irving Cox
Edwin A. Stevens

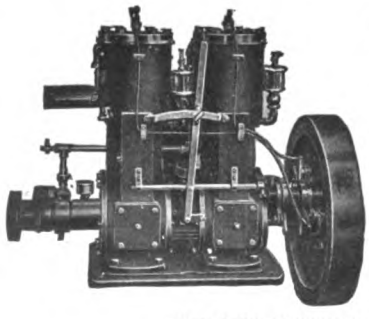
Daniel H. Cox
Edwin A. Stevens, Jr.

COX & STEVENS
Telephone 1375 Broad
Consulting Engineers, Naval Architects, Marine Engineers
15 WILLIAM STREET NEW YORK

WILLIAM T. DONNELLY
Consulting Engineer and Naval Architect
135 BROADWAY, NEW YORK
DESIGNER OF FLOATING DRY DOCKS STEEL AND WOOD
PLANS ON HAND FOR DOCKS FROM 1,000 TO 10,000 TONS
Write for information on Mechanical Lift Dock for Small Vessels

WHITTELSEY & WHITTELSEY, Inc.
Naval Architects and Marine Engineers
11 BROADWAY, - - NEW YORK CITY, U. S. A.
Designers of vessels of all classes for commercial and pleasure purposes, propelled by steam, gasoline, kerosene or producer gas machinery. Special attention to export business.

Centrifugal Pumps Feed Water Heaters Surface Condensers
Catalogues Mailed Free
WHEELER CONDENSER AND ENGINEERING COMPANY
CARTERET, NEW JERSEY



BARBER
JUMP SPARK MARINE GASOLINE ENGINES

Easily started. Run in either direction. Speed Control.

Material, Workmanship and Running Qualities Guaranteed

also

Barber Three Blade Reverse Wheels

HIGH-GRADE, MODERATE IN PRICE

BARBER BROTHERS Cor. GRAPE and WATER Sts., Syracuse, New York

BALDT STOCKLESS ANCHOR

Made of the finest quality of open hearth steel, better than forgings.

Used extensively by the United States Navy on their battleships and cruisers.

Send for Catalogue

BALDT ANCHOR CO., CHESTER, PA.

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

"MORSE" TOOLS

Made of Carbon or High Speed Steel

TWIST DRILLS, REAMERS, CUTTERS, TAPS, DIES, MANDRELS, TAPER PINS, SOCKETS, etc.

Send for Catalog

MORSE TWIST DRILL & MACHINE CO.
NEW BEDFORD, MASS., U.S.A.

Only Dry Dock on Atlantic Coast

SOUTH OF NEWPORT NEWS

4500 TONS LIFTING CAPACITY

Two Marine Railways—One 1200 Tons, One 500 Tons

All kinds of Repairs done with despatch Constant working force of 800 men

MERRILL-STEVENS COMPANY, Jacksonville, Fla.

Newport News Shipbuilding & Dry Dock Co.

WORKS AT NEWPORT NEWS, VA. (On Hampton Roads)

Equipped with three large Basin Dry Docks of the following dimensions:

	No. 1	No. 2	No. 3
Length on Top	610 feet.	827 feet.	558 feet.
Width on Top	130 "	162 "	147 "
Width on Bottom	50 "	80 "	62 "
Draught of Water over Sill	25 "	30 "	24 "

SHOPS are equipped with modern machinery capable of doing the largest work required in ship construction. Tools driven by electricity and compressed air used in constructing and repairing vessels. For estimates and further particulars address

C. B. ORCUTT, President, 30 Church St., New York

REEVES "TUBAL" MANGANESE BRONZE

FOR PROPELLERS, PISTON RODS, AND ALL CASTINGS REQUIRING HIGH ULTIMATE

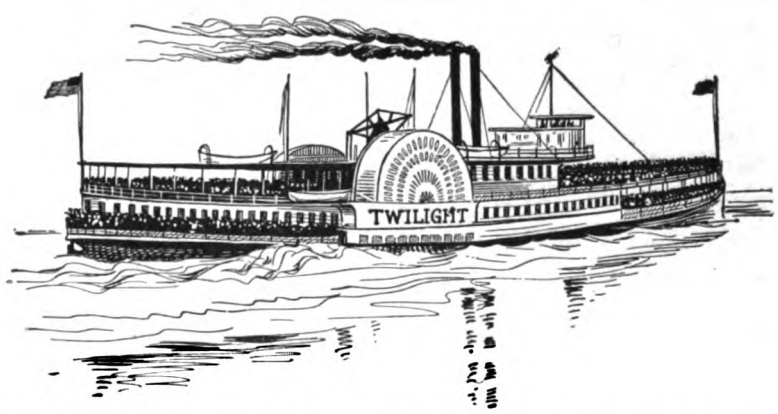
A FEW PRACTICAL RESULTS FROM 10 TORPEDO SPOONS (4,200 lbs. each) WE MADE FOR UNITED STATES GOVERNMENT

OFFICIAL TESTS

ULTIMATE	ELASTIC LIMIT	ELONG.	REDUC.
82 340	33,400	31.5	31.80
79 320	35,600	28.5	30.12
79,120	35 040	31.	32.82
79,640	39,240	27.	30.76
78,680	38.300	27.	27.8

Sold in Ingots, or Castings up to 20,000 lbs. in weight.

PAUL S. REEVES & SON
PHILADELPHIA, PA., U. S. A.



MARINE ENGINES

Gas Producer, Gas and Steam

Patents Obtained Bought Sold Financed

Consulting Supervising Electrical **Engineer**

Power Plants Gas Electrical Steam

THOMAS C. POLE

The Bourse
PHILADELPHIA, PA.
Phone, Lombard, 1679
" Preston, 2255
" " 2355

Telegraphic Address "Gascar Phila."

1342 New York Ave., N. W.
WASHINGTON, D. C.

100 Broadway
NEW YORK CITY
Phone, 3777 Rector

Generated on 2024-09-12 07:33 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google

Digitized by Google

Original from UNIVERSITY OF MICHIGAN

The Atlantic Works

BORDER, MAVERICK and NEW STS., EAST BOSTON, MASS.
(Docks opposite Navy Yard)
BUILDERS OF
STEAMSHIPS, TOW BOATS and STEAM YACHTS
IN STEEL AND WOOD.
THREE MARINE RAILWAYS
Marine Engines, Boilers, etc. Hull,
Boiler and Engine Repairs.

Maryland Steel Company

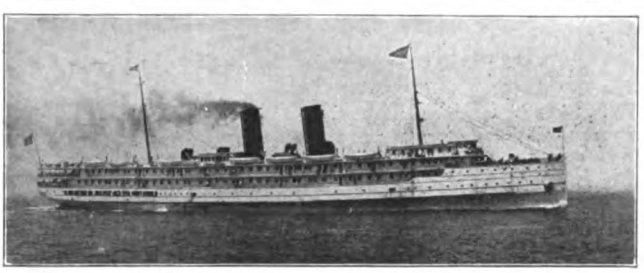
MARINE DEPARTMENT
SPARROW'S POINT, MD.
OFFICES IN NEW YORK AND PHILADELPHIA
Builders of
Steel Vessels of Every Description
MARINE ENGINES AND BOILERS
Hull, Joiner, Engine and Boiler Repairs

BATH IRON WORKS

LIMITED
BATH, MAINE
Shipbuilders and Engineers
LICENSEE FOR
Parsons Marine Turbines
Normand Express Water Tube Boilers
Particular attention given to high speed requirements
Estimates furnished

THE MORAN COMPANY

ENGINEERS
SHIPBUILDERS
Founders, Machinists and Boiler Makers
Dry Docks and Saw Mills
SEATTLE - - WASH.



TURBINE STEAMSHIPS YALE AND HARVARD

W. & A. FLETCHER CO.

PARSON'S MARINE TURBINES
Marine Engines, Boilers and Machinery of all Kinds
Contractors for Vessels Complete. HOBOKEN, N. J.

STEAMSHIPS	CEMENT MACHINERY
MARINE ENGINES	SUGAR MACHINERY
STATIONARY ENGINES	GAS APPARATUS
MARINE TURBINES	GOLD DREDGES
STATIONARY BOILERS	STEEL, IRON & BRASS
TANKS, SMOKESTACKS	CASTINGS, FORGINGS, &c.

SPECIAL MACHINERY
REPAIRS TO ENGINES, BOILERS & MACHINERY OF ALL DESCRIPTIONS

QUINTARD IRON WORKS CO.

OFFICE, 742 EAST 12th STREET, NEW YORK

FORE RIVER SHIPBUILDING CO.

Established 1884. Incorporated 1904.
Shipbuilders and Engineers
War and Merchant Vessels
Curtis Marine Turbines
Holland Submarine Boats
Office and Works: QUINCY, MASS., U.S.A.

MACHINE TOOLS NILES CRANES BEMENT HAMMERS

Catalogue on request
Niles-Bement-Pond Co.
111 BROADWAY, NEW YORK
25 VICTORIA STREET, LONDON

When writing to advertisers, please mention INTERNATIONAL MARINE ENGINEERING.

Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

A Good Substantial Bolt

For use where the fire is hot or the strain severe—made to hold.

We Manufacture Everything in

BOLTS AND NUTS

Cold Punched,
Case Hardened,
Trimmed and
Semi-Finished Nuts

USED IN SHIPYARDS, ENGINE SHOPS, Etc.

Send for a copy of our Catalogue.

RUSSELL, BURDSALL & WARD BOLT & NUT COMPANY

PORT CHESTER, NEW YORK

THE TOLEDO SHIPBUILDING COMPANY

BUILDERS AND REPAIRERS OF

SHIPS AND ENGINES

FRANK E KIRBY, CONSULTING ENGINEER

TOLEDO, OHIO

ALEXANDER MCVITTIE, PRESIDENT
CHAS. B. CALDER, GENERAL MANAGER
H. S. WILKINSON, SECRETARY
L. C. SMITH, TREASURER

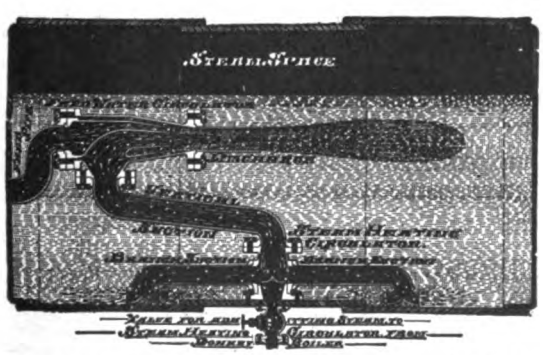
WHERE TO BUY

ANYTHING MARINE

A Free Copy of the only Marine Directory ever published will be sent to every one of our readers who asks for it.

Vest-pocket size, 5 x 2⅝

ADDRESS
INTERNATIONAL
MARINE ENGINEERING
17 Battery Place **New York**



SECTION OF APPARATUS ON LARGER SCALE THAN BOILER

The Equilibrium Circulator

AND STEAM HEATING ATTACHMENT

A Necessity for Marine Boilers

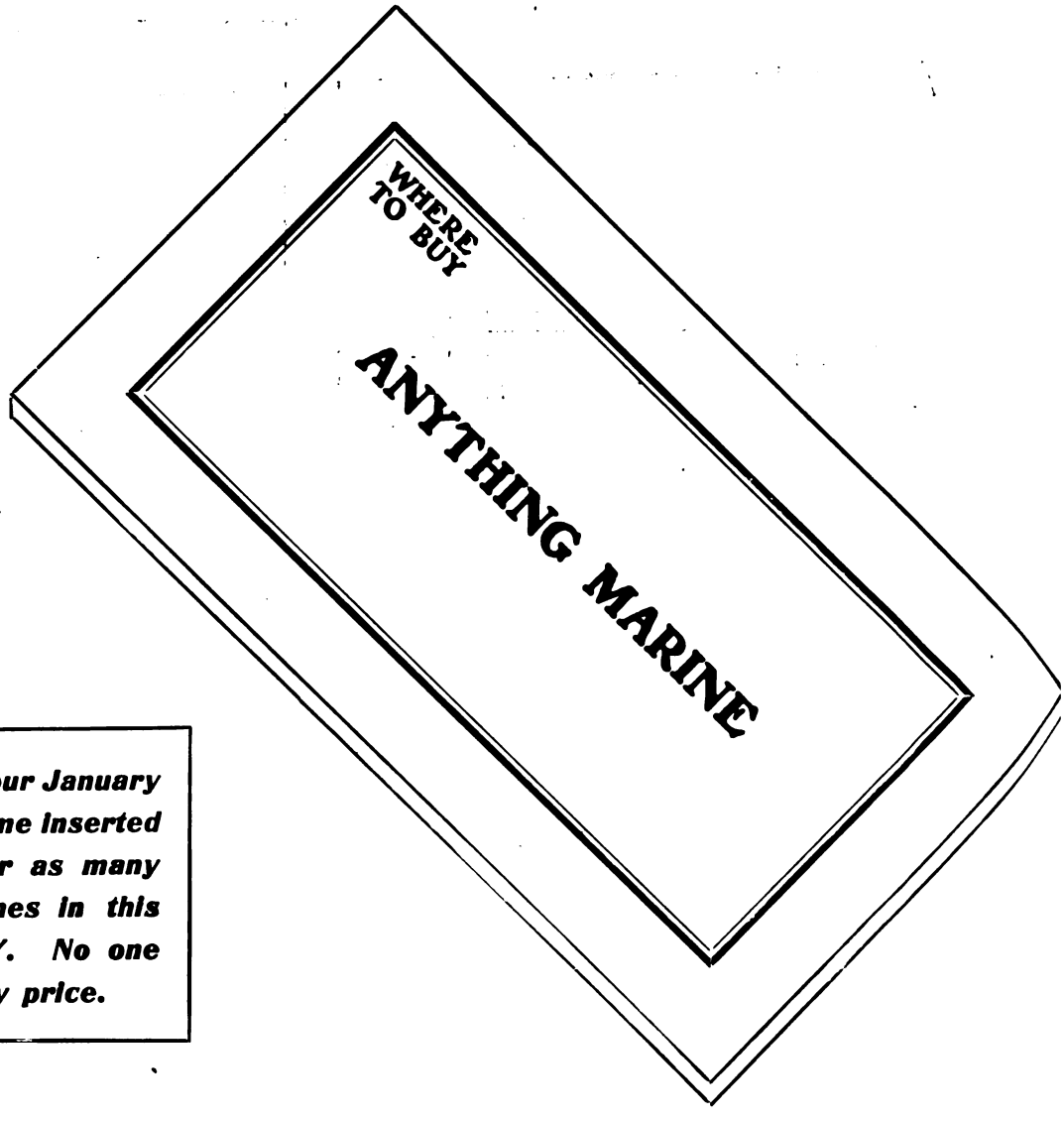
PROLONGS LIFE OF YOUR BOILER

Just as important as your injector.
U. S. Steamboat Inspectors say this apparatus should be required by law to be placed in all boilers.
Prevents or reduces foaming, or priming and pitting.
Equalizes expansion, and prevents leaks of seams and rivets
Prevents the deposit of sediment and formation of scale.
Increases steaming capacity 5 per cent to 15 per cent.
Lloyds and Hartford Insurance Company approve it.

H. BLOOMSBURG & COMPANY

425 N. CAREY STREET **BALTIMORE, MD.**

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



Every advertiser in our January issue will have his name inserted free of charge under as many headings as he wishes in this MARINE DIRECTORY. No one else can get in at any price.

This issue will be our big annual number. It will be a special shipyard equipment and supply number, and copies will reach every ship builder and owner of importance throughout the world.

In connection with this number we shall issue a

POCKET SIZE MARINE DIRECTORY

for free distribution all over the world

There will be no increase in advertising rates

INTERNATIONAL MARINE ENGINEERING

Whitehall Building, 17 Battery Place
NEW YORK

31 Christopher Street, Finsbury Square
LONDON, E. C.

Generated on 2024-09-12 07:32 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

BUYERS' DIRECTORY

ACCUMULATORS, HYDRAULIC.
Niles-Bement-Pond Co., New York.

AIR AND CIRCULATING PUMPS (Combined).
Davidson, M. T., Co., New York.
Wheeler Condenser and Engineering Co., Carteret, N. J.
Wheeler, C. H., Mfg. Co., Philadelphia, Pa.

AIR COMPRESSORS.
Independent Pneumatic Tool Co., Chicago and New York.
Norwalk Iron Works, South Norwalk, Conn.

AIR COUPLINGS.
Independent Pneumatic Tool Co., Chicago and New York.
National Tube Co., Pittsburg, Pa.

AIR DRILLS.
Independent Pneumatic Tool Co., Chicago and New York.
Norwalk Iron Works, South Norwalk, Conn.
Stow Flexible Shaft Co., Philadelphia, Pa.
Wheeler Condenser and Engineering Co., Carteret, N. J.

AIR HAMMERS—See PNEUMATIC TOOLS.

AIR HOISTS.
Independent Pneumatic Tool Co., Chicago and New York.

AIR HOSE.
Independent Pneumatic Tool Co., Chicago and New York.

AIR MOTORS.
Independent Pneumatic Tool Co., Chicago and New York.
Stow Flexible Shaft Co., Philadelphia, Pa.

AIR PUMPS.
Davidson, M. T., Co., New York.
Wheeler Condenser and Engineering Co., New York.
Wheeler, C. H., Mfg. Co., Philadelphia, Pa.

ALARMS—See WATER GAUGES AND ALARMS.

ALCOHOL ENGINES.
Mietz A., New York.

ALUMINUM CASTINGS.
Lunkenheimer Co., Cincinnati, Ohio.
Reeves, Paul S., & Son, Philadelphia, Pa.

AMMETERS—See ELECTRICAL INSTRUMENT .

ANCHORS.
American Ship Windlass Co., Providence, R. I.
Baldt Anchor Co., Chester, Pa.

ANCHOR TRIPPERS.
American Ship Windlass Co., Providence, R. I.

ANTI-FRICTION METAL.
Hyde Windlass Co., Bath, Maine.
Katzenstein, L., & Co., New York.
Phosphor-Bronze Smelting Co., Philadelphia, Pa.
Reeves, Paul S., & Son, Philadelphia, Pa.

ASBESTOS—See NON-CONDUCTING COVERING; also see PACKING. ASBESTOS.

ASBESTOS PACKING—See PACKING, ASBESTOS.

ASH HOISTS.
Chase Machine Co., Cleveland, Ohio.
Davidson, M. T., Co., New York.
Hyde Windlass Co., Bath, Me.
Williamson Bros. Co., Philadelphia, Pa.
Willock, Reid & Co., Glasgow.

ATTORNEYS—PATENT.
Decker, Delbert H., Washington, D. C.
Pole, Thomas C., Philadelphia, Pa.

AUTO-ACID VALVES—See VALVES.

AUTOMATIC INJECTORS.
Lunkenheimer Co., Cincinnati, Ohio.
Penberthy Injector Co., Detroit, Mich.

AUTOMATIC TOWING MACHINES—See TOWING MACHINES.

AUTOMATIC WATER GAUGES—See WATER GAUGES.

BABBITT METAL—See ANTI-FRICTION METAL.

BALL BEARINGS—See THRUST BEARINGS.

BARGES—See SHIPBUILDERS.

BATH TUBS—ENAMELED IRON, PORCELAIN.
Sands, A. B., & Son Co., New York.

BEARINGS—See ANTI-FRICTION METAL; also THRUST BEARINGS.

BELLS.
National Tube Co., Pittsburg, Pa.

BELTING—See LEATHER BELTING.

BENCH TOOLS.
Billings & Spencer Co., Hartford, Conn.
Brown & Sharpe Mfg. Co., Providence, R. I.
Pratt & Whitney Co., New York.
Starrett, L. S., Co., Athol, Mass.
Williams & Co., J. H., Brooklyn, N. Y.

(Index continued on page 42.)

SEARCH LIGHTS

General Electric searchlight projectors are designed to meet the severe requirements of *marine service.*

They are arranged for hand, pilot-house, rope, or electric control, and can be furnished in sizes from 9 to 60 inches.

A list of installations will be sent on request, showing the variety of uses for which these searchlights are adapted.

General Electric Company

Principal Office, Schenectady, N. Y.

2165

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

TERRY TURBINES

View of Terry Steam Turbine with the Cover Lifted, Showing Wheel in Position.

This is a reliable and efficient low speed machine as proven by over four years' commercial service.
300 Terry Turbines are running direct-connected, without gears, to centrifugal multi-stage boiler-feed and ballast pumps, to electric generators and to forced draft fans. Installed on yachts, merchant vessels and U. S. warships.

Write for Catalog

THE TERRY STEAM TURBINE CO.

HOME OFFICE AND WORKS
HARTFORD, CONN.

GENERAL SALES OFFICE
90 WEST ST., NEW YORK

This will identify our representative

Mr. H. N. DINSMORE

who is authorized to take subscriptions in any part of the United States and Canada, to collect the money due for new subscriptions and renewals, and to receipt for same in our name. His mail should be sent to 33 Fowler St., Boston, Mass.

International Marine Engineering
17 BATTERY PLACE, NEW YORK

BENDING MACHINES, KEEL PLATE OR GARBOARD.
Niles-Bement-Pond Co., New York.

BENDING ROLLS—See ROLLS.

BILGE PUMPS—See PUMPS.

BINNACLES.
Heath & Co., Ltd., London.

BINOCULARS—See MARINE GLASSES.

BITTS.
American Ship Windlass Co., Providence, R. I.
Hyde Windlass Co., Bath, Maine.

BLOCKS.
Boston & Lockport Block Co., Boston, Mass.

BLOWERS.
American Blower Co., Detroit, Mich.
De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Sirocco Engineering Co.—See American Blower Co.
Sturtevant Co., B. F., Hyde Park, Mass.

BLOW-OFF VALVES—See VALVES.

BLUE-PRINTING SUPPLIES—See DRAFTMEN'S SUPPLIES.

BOAT BUILDERS—See LAUNCHES AND YACHTS.

BOAT DAVITS—See DAVITS.

BOAT FITTINGS.
British Mannesman Tube Co., Ltd., London.
Ferdinand, L. W., & Co., Boston, Mass.
Welin Davit and Lane & DeGroot Co., Con., New York.

BOATS—See LIFE BOATS—also LAUNCHES AND YACHTS.

BOILERS—Also see ENGINE BUILDERS; also SHIP BUILDERS.
Almy Water Tube Boiler Co., Providence, R. I.
Atlantic Works, The, East Boston, Mass.
Babcock & Wilcox Co., New York.
Bath Iron Works, Bath, Me.
Griscom-Spencer Co., New York.
Hyde Windlass Co., Bath, Maine.
Kingsford Foundry & Machine Works, Oswego, N. Y.
Maryland Steel Co., Sparrow's Point, Md.
Mosher Water Tube Boiler Co., New York.
Quintard Iron Works Co., New York.
Roberts Safety Water Tube Boiler Co., Red Bank, N. J.
Rowan, David, & Co., Glasgow.
Sisson & Co., Gloucester.
Taylor Water Tube Boiler Co., Detroit, Mich.

BOILER CIRCULATORS.
Bloomsburg, H., & Co., Baltimore, Md.

BOILER COMPOUNDS.
Bird-Archer Co., The, New York.
Green, Hook & Co., Inc., New York.
Johns-Manville, H. W., Co., New York.

BOILER COVERING—See NON-CONDUCTING COVERING.

BOILER FEEDERS—See FEED-WATER REGULATORS.

BOILER-FLUE AND TUBE CLEANERS.
Griscom-Spencer Co., New York.
Johns-Manville, H. W., Co., New York.

BOILER AND PIPE COVERINGS—See NON-CONDUCTING COVERING.

BOILER ROOM FITTINGS.
American Blower Co., Detroit, Mich.
Ashton Valve Co., Boston, Mass.
Griscom-Spencer Co., New York.
Jerguson Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
Mason Regulator Co., Boston, Mass.
National Tube Co., Pittsburg, Pa.
Powell, Wm., Co., Cincinnati, Ohio.
Star Brass Mfg. Co., Boston, Mass.
Walworth Mfg. Co., Boston, Mass.

BOILER STAYBOLTS—See STAYBOLTS.

BOILER TUBES.
British Mannesman Tube Co., Ltd., London.
National Tube Co., Pittsburg, Pa.
Walworth Mfg. Co., Boston, Mass.

BOILER TUBE CUTTERS.
Stow Flexible Shaft Co., Philadelphia, Pa.

BOILER TUBE RETARDERS.
Griscom-Spencer Co., New York.

BOLTS AND NUTS.
National Tube Co., Pittsburg, Pa.
Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.

BOOKS.
Munro, James, & Co., Glasgow.
Reed, Thos., & Co., Ltd., Sunderland.

BORING BARS—See CYLINDER BORING BARS.

BORING MACHINES—METAL WORKING.
Niles-Bement-Pond Co., New York.

(Index continued on page 43.)

Generated on 2024-09-12 07:35 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

NEW WESTON INSTRUMENTS

A. C. SWITCHBOARD - - { AMMETERS / VOLTMETERS

A. C. PORTABLE - - - { AMMETERS / MILLI-AMMETERS / VOLTMETERS

D. C. ECLIPSE SWITCHBOARD { AMMETERS / MILLI-AMMETERS / VOLTMETERS

These new instruments are **absolutely Dead-Beat; Extremely Sensitive.**
Remarkably Accurate. They require very little power for operation and are **very low in price.**
The Alternating Current Instruments are **practically free** from **Temperature Error** and their indications are **practically independent of frequency and also of wave form.**
Correspondence regarding these and other of our many types of Electrical Measuring Instruments is solicited.

WESTON ELECTRICAL INSTRUMENT COMPANY

New York Office, 114 Liberty St. **NEWARK, N. J.**

LONDON BRANCH: Audrey House, Ely Place, Holborn

PARIS, FRANCE: E. H. Cadiot, 12 Rue St. Georges **BERLIN: Weston Instrument Co. Ltd., Ritterstrasse, No. 88**

BORING MACHINES—WOOD.
Independent Pneumatic Tool Co., Chicago and New York.

BORING AND TURNING MILLS.
Niles-Bement-Pond Co., New York.

BRASS AND COPPER—Also see YELLOW METAL; also MUNTZ METAL.
Lumen Bearing Co., Buffalo, N. Y.
Reeves, Paul S., & Son, Philadelphia, Pa.
Taunton-New Bedford Copper Co., New Bedford, Mass.
Toledo Shipbuilding Co., Toledo, Ohio.

BRASS CASTINGS.
Griscom-Spencer Co., New York.
Hyde Windlass Co., Bath, Maine.
Lumen Bearing Co., Buffalo, N. Y.
Lunkenheimer Co., Cincinnati, Ohio.

BRAZING MATERIALS.
Smooth-On Mfg. Co., Jersey City, N. J.

BRONZE.
Lumen Bearing Co., Buffalo, N. Y.
Lunkenheimer Co., Cincinnati, Ohio.
Phosphor-Bronze Smelting Co., Philadelphia, Pa.
Reeves, Paul S., & Son, Philadelphia, Pa.
Taunton-New Bedford Copper Co., New Bedford, Mass.

BRONZE CASTINGS—See CASTINGS—BRONZE.

BRONZE-VANADIUM.
American Vanadium Co., Pittsburg, Pa.

BUOYS.
Sands, A. B., & Son Co., New York.

BUSHINGS, METALINE AND PHOSPHOR-BRONZE.
Boston & Lockport Block Co., Boston, Mass.
National Tube Co., Pittsburg, Pa.
Reeves, Paul S., & Son, Philadelphia, Pa.

BUTTERFLY VALVES—See VALVES.

BY-PASS VALVES—See VALVES.

CABLEWAYS—See MARINE CABLEWAYS.

CALKING TOOLS.
Boston & Lockport Block Co., Boston, Mass.

CAPSTANS—STEAM—ELECTRIC—HAND.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland Ohio.
Hyde Windlass Co., Bath, Maine.

CARGO BLOCKS—See BLOCKS.

CASTINGS—BRONZE—Also see STEEL CASTINGS.
Griscom-Spencer Co., New York.
Hyde Windlass Co., Bath, Me.
Lumen Bearing Co., Buffalo, N. Y.
Lunkenheimer Co., Cincinnati, Ohio.
Phosphor-Bronze Smelting Co., Philadelphia, Pa.
Reeves, Paul S., & Son, Philadelphia, Pa.

CAST-IRON VANADIUM.
American Vanadium Co., Pittsburg, Pa.

CAST-STEEL VANADIUM.
American Vanadium Co., Pittsburg, Pa.

CEMENT—ASBESTOS.
Johns-Manville, H. W., Co., New York.

CENTRIFUGAL PUMPS—See PUMPS.

CHAIN PIPE WRENCHES—See WRENCHES.

CHAIN STOPPERS.
American Ship Windlass Co., Providence, R. I

CHANDLERY STORES.
Ferdinand, L. W., & Co., Boston, Mass.
Griscom-Spencer Co., New York.

CHECK VALVES—See VALVES.

CHRONOMETERS—See CLOCKS.

CHOCKS.
American Ship Windlass Co., Providence, R. I.

CHUCKS.
Morse Twist Drill & Machine Co., New Bedford, Mass.

CIRCULATING PUMPS—See PUMPS.

CIRCULATORS.
Bloomsburg, H., & Co., Baltimore, Md.

CLASSIFICATION ASSOCIATION.
American Bureau of Shipping, New York.

CLOCKS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Ashton Valve Co., Boston, Mass.
Star Brass Mfg. Co., Boston, Mass.

COCKS—See GAUGE COCKS.

COAL HANDLING MACHINERY.
Lidgerwood Mfg. Co., New York.

COLLECTORS—PNEUMATIC.
Sturtevant Co., B. F., Hyde Park, Mass.

COMPANION FLANGES.
Lunkenheimer Co., Cincinnati, Ohio.

COMPASSES—See NAUTICAL INSTRUMENTS.

COMPOUNDS—See BOILER COMPOUNDS.

CONDENSERS.
Davidson, M. T., Co., New York.
Griscom-Spencer Co., New York.
Wheeler, C. H., Mfg. Co., Philadelphia, Pa.
Wheeler Condenser and Engineering Co., New York.
Williamson Bros. Co., Philadelphia, Pa.

(Index continued an page 44.)

When writing to advertisers, please mention INTERNATIONAL MARINE ENGINEERING.

Generated on 2024-09-12 07:35 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

PURE COPPER

YELLOW (MUNTZ) METAL

NAVAL BRASS

MANGANESE BRONZE

TRADE TAUNTON-NEW BEDFORD YELLOW METAL MARK AMERICA

Sheets, Bolts, Bars, Nails, Piston and Pump Rods

Condenser and Supporting Plates

Guaranteed to pass Government Inspection

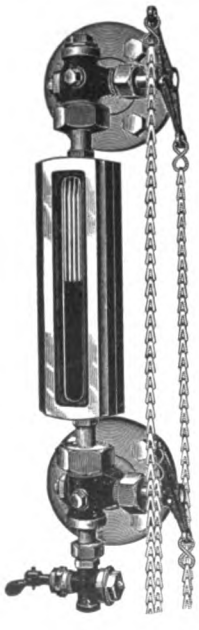
Taunton-New Bedford Copper Co.

NEW BEDFORD, MASS.

77 Water Street, NEW YORK

61 Batterymarch St, BOSTON

WILTBONCO



Engineering Specialties

REFLEX WATER GAGES

Used on all types of boilers by all the Principal Navies of the World.

"THE WATER SHOWS BLACK"

ADVANTAGES:

Quick and reliable observation of the water level. Safe, sure and durable at high pressures. Not affected by cold air drafts. Most effective protection against injuries to boilers and workmen. Easily applied to all types of gage glass fittings.

When filled with WATER the Reflex Gage always appears BLACK. When empty it instantly shows WHITE. No mistake possible. This feature alone is worth many times the cost of the Reflex.

Send for catalog of Water Gage Apparatus.

MANUFACTURED BY THE

JERGUSON MFG. COMPANY

Pope Building, BOSTON, MASS.

CONSULTING ENGINEERS—See ENGINEERS—Also PROFESSIONAL CARDS.

CONVEYING MACHINERY.
Lidgerwood Mfg. Co., New York.
Sturtevant Co., B. F., Hyde Park, Mass.

COPPER—See BRASS AND COPPER.

CORDAGE—Also see ROPE and WIRE ROPE—Also TWINE.
Columbian Rope Co., Auburn, N. Y.
Griscom-Spencer Co., New York.
Plymouth Cordage Co., North Plymouth, Mass.

CORRUGATED FURNACES.
Brown, John, & Co., Ltd., New York.
Continental Iron Works, Brooklyn, N. Y.

COTTON DUCK—See CHANDLERY STORES.

COTTON RUBBER-LINED HOSE—See HOSE.

COUNTERS—See REVOLUTION COUNTERS.

COVERING, STEAM—See NON-CONDUCTING COVERING.

CRANES, DOCK.
Niles-Bement-Pond Co., New York.
Welin Davit and Lane & DeGroot Co., Con., New York.
Williamson Bros. Co., Philadelphia, Pa.

CRANK SHAFTS—See FORGINGS.

CUPRO-VANADIUM.
American Vanadium Co., Pittsburg, Pa.

CUTTERS.
Brown & Sharpe Mfg. Co., Providence, R. I.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Pratt & Whitney Co., New York.

CYLINDER BORING BARS.
British Mannesman Tube Co., Ltd., London.
Niles-Bement-Pond Co., New York.
Stow Flexible Shaft Co., Philadelphia, Pa.

CYLINDER RELIEF VALVES—See VALVES.

CYLINDERS FOR COMPRESSED AIR, GAS, ETC.
National Tube Co., Pittsburg, Pa.

DAVITS.
British Mannesman Tube Co., Ltd., London.
Welin, Axel, London.
Welin Davit and Lane & DeGroot Co., New York.

DEAD EYES.
Boston & Lockport Block Co., Boston, Mass.

DEAD WEIGHT GAUGE TESTERS—See GAUGE TESTERS.

DECK HOISTS—See HOISTING ENGINES.

DECK LIGHTS.
Petersen, C. F., Co., Philadelphia, Pa.

DECK PLATES.
Sands, A. B., & Son Co., New York.

DECK PUMPS—See PUMPS.

DERRICKS.
British Mannesman Tube Co., Ltd., London.

DIAPHRAGM PUMPS—See PUMPS.
Boston & Lockport Block Co., Boston, Mass.
Hyde Windlass Co., Bath, Me.

DIES.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Pratt & Whitney Co., New York.
Richards, I. P., Co., Providence, R. I.

DIRECT-CONNECTED SETS—See ELECTRICAL PLANTS.

DISENGAGING GEARS.
Welin Davit and Lane & De Groot Co., New York.

DISTILLERS—See EVAPORATORS.

DIVING APPARATUS.
Morse, Andrew J., & Son, Inc., Boston, Mass.

DRAFT, MECHANICAL—See MECHANICAL DRAFT.

DRAIN VALVES—See VALVES.

DRAWING INSTRUMENTS—See DRAFTSMEN'S SUPPLIES.

DREDGING MACHINERY.
Williamson Bros. Co., Philadelphia, Pa.

DRILLING MACHINES, VERTICAL, HORIZONTAL AND RADIAL.
Niles-Bement-Pond Co., New York.
Pratt & Whitney Co., New York.

DRILLS.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Pratt & Whitney Co. New York.
Stow Flexible Shaft Co., Philadelphia, Pa.

DRILLS, ELECTRIC—See ELECTRIC DRILLS.

DRILLS, PNEUMATIC—See PNEUMATIC TOOLS; also AIR DRILLS.

DRILLS, PORTABLE—See PORTABLE DRILLS.

DROP FORGINGS, EYE BOLTS, HOOKS, ROPE SOCKETS, WRENCHES, ETC.
Billings & Spencer Co., Hartford, Conn.
Williams & Co., J. H., Brooklyn, N. Y.

DROP HAMMERS.
Billings & Spencer Co., Hartford, Conn.
Niles-Bement-Pond Co., New York.

DRY DOCKS AND MARINE RAILWAYS.
Atlantic Works, East Boston, Mass.
Halifax Graving Dock Co., Ltd., Halifax, N. S.
Merrill-Stevens Co., Jacksonville, Fla.

(Index continued on page 45.)

Generated on 2024-09-12 07:33 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

Moran Co., The, Seattle, Wash.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Tietjen & Lang Dry Dock Co., Hoboken, N. J.
Toledo Shipbuilding Co., Toledo, Ohio.

DRYING APPARATUS.
American Blower Co., Detroit, Mich.
Sturtevant Co., B. F., Hyde Park, Mass.

DYNAMOS—See ELECTRICAL PLANTS; also STEAM TURBINE DYNAMOS.

ECONOMIZERS, FUEL—See FUEL ECONOMIZERS.

EJECTORS.
Lunkenheimer Co., Cincinnati, Ohio.
Penberthy Injector Co., Detroit, Mich.

ELECTRIC DRILLS.
General Electric Co., Schenectady, N. Y.
Independent Pneumatic Tool Co., Chicago and New York.
Stow Flexible Shaft Co., Philadelphia, Pa.
Johns-Manville, H. W., Co., New York.

ELECTRIC HEATERS.
General Electric Co., Schenectady, N. Y.
Simplex Electric Heating Co., Cambridgeport, Mass.

ELECTRIC HOISTS.
American Ship Windlass Co., Providence, R. I.
General Electric Co., Schenectady, N. Y.
Hyde Windlass Co., Bath, Me.
Lidgerwood Mfg. Co., New York.
Niles-Bement-Pond Co., New York.
Williamson Bros. Co., Philadelphia, Pa.

ELECTRIC LAUNCHES.
Electric Launch Co., Bayonne, N. J.

ELECTRIC LIGHTS.
General Electric Co., Schenectady, N. Y.

ELECTRIC PLANTS.
Forbes, W. D., Mfg. Co., New London, Conn.
General Electric Co., Schenectady, N. Y.
Sturtevant Co., B. F., Hyde Park, Mass.

ELECTRICAL FITTINGS AND SUPPLIES—Also see ELECTRIC PLANTS.
General Electric Co., Schenectady, N. Y.
Griscom-Spencer Co., New York.
Johns-Manville, H. W., Co., New York.

ELECTRICAL INSTRUMENTS.
General Electric Co., Schenectady, N. Y.
Weston Electrical Instrument Co., Waverly Park, Newark, N. J.

ENGINE PACKING—See PACKING.

ENGINE-ROOM SUPPLIES—See STEAM SPECIALTIES.

ENGINEERS, CONSULTING.
Tasker & Strawbridge, Philadelphia, Pa.
Williamson Bros. Co., Philadelphia, Pa.

ENGINES FOR AUXILIARIES.
American Blower Co., Detroit, Mich.
American Ship Windlass Co., Providence, R. I.
Century Engineering Co., Ogdensburg, N. Y.
Chase Machine Co., Cleveland, Ohio.
Dake Engine Co., Grand Haven, Mich.
De Laval Steam Turbine Co., Trenton, N. J.
Forbes, W. D., Mfg. Co., New London, Conn.
Hyde Windlass Co., Bath, Me.
Marine Iron Works, Chicago, Ill.
Pole, Thomas C., Philadelphia, Pa.
Rowan, David, & Co., Glasgow.
Sturtevant Co., B. F., Hyde Park, Mass.
Terry Steam Turbine Co., Hartford, Conn.
Wheeler Condenser and Engineering Co., Carteret, N. J.

ENGINES, GASOLINE—See GASOLINE ENGINES.

ENGINES, HOISTING—See HOISTING ENGINES.

ENGINES, KEROSENE—See KEROSENE ENGINES.

ENGINES—PROPELLING.
Atlantic Works, The, East Boston, Mass.
Bath Iron Works, Bath, Me.
Forbes, W. D., Mfg. Co., New London, Conn.
Gas Engine & Power Co., & Chas. L. Seabury & Co., Consol., Morris Heights, N. Y.
Kingsford Foundry & Machine Works, Oswego, N. Y.
Marine Iron Works, Chicago, Ill.
Maryland Steel Co., Sparrow's Point, Md.
Morris Machine Works, Baldwinsville, N. Y.
Pole, Thomas C., Philadelphia, Pa.
Quintard Iron Works Co., New York.
Rowan, David, & Co., Glasgow.
Sheriffs Mfg. Co., Milwaukee, Wis.
Sisson & Co., Gloucester.
Toledo Shipbuilding Co., Toledo, Ohio.
Trout, H. G., Co., Buffalo, N. Y.

ENGINE ROOM CLOCKS—See CLOCKS.

EVAPORATORS.
Davidson, M. T., Co., New York.
Griscom-Spencer Co., New York.
Wheeler, C. H., Mfg. Co., Philadelphia, Pa.
Wheeler Condenser and Engineering Co., Carteret, N. J.
Williamson Bros. Co., Philadelphia, Pa.

EXCESS PUMP GOVERNORS—See PUMP GOVERNORS.

(Index continued on page 46.)

Thor REVERSIBLE WOOD BORING MACHINES

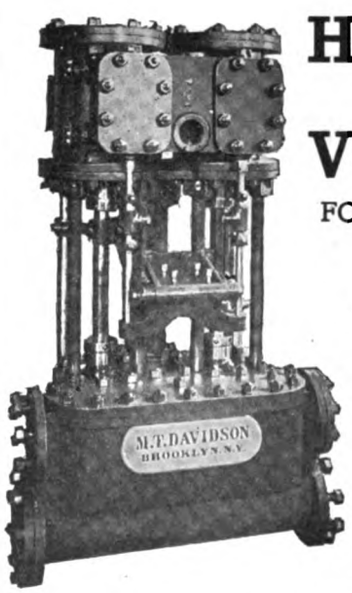
are used by progressive railroads, car and ship builders, engineers and dock contractors. Exhaustive tests in some of the largest plants have fully proven their superiority. Our catalog describes them in every detail. May we send it?

INDEPENDENT PNEUMATIC TOOL CO.
Manufacturers of Air Drills and Hammers
CHICAGO, NEW YORK, PITTSBURG, SAN FRANCISCO

REPAIRS AT SEA
can't be made too quickly.
The Stow Flexible Shaft and Ready Electric Motor
saves time in two ways:
First: It reduces the necessity for hand labor.
Second: It saves taking work down and mounting it.
Takes the *tool* to the work; *drilling, reaming, tapping, grinding,* and *polishing,* done quickly and with precision.
Write for particulars.

STOW FLEXIBLE SHAFT CO., Philadelphia, Pa.

Davidson Pumps



Horizontal
AND
Vertical
FOR ALL SERVICES
—
Condensers
—
Evaporators
—
Ash Ejectors
—
Send for New Catalogues

M. T. DAVIDSON CO.
Tribune Building, 154 Nassau St. NEW YORK
Tel. 4671 Beekman

Generated on 2024-09-12 07:38 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

PLYMOUTH ROPE is the Right Rope for Marine Trade

This means that Plymouth rope is always reliable—has been made that way for eighty-five years. High-grade Manila hemp and Plymouth workmanship make it the one rope most sought for by marine buyers.

Send for our Series of Bulletins, "Plymouth Products." They should be read by every rope buyer.

PLYMOUTH CORDAGE CO.

ESTABLISHED 1824

NORTH PLYMOUTH, MASS

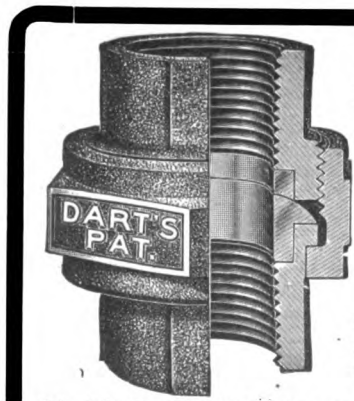
Distributing Agents in all Principal Ports

THE ONLY STANDARD AMERICAN CLASSIFICATION OF SHIPPING

Has authorized agents in all the Principal Ports of the world to protect the interests of its patrons.

Vessels built under its rules or holding certificates of class or seaworthiness in this Record of Shipping will, with their cargoes, insure at the lowest rates.

Office, 66-68 Beaver Street, New York



The Bronze Spherical Seats in combination with Malleable Pipe Ends give the

DART Patent Union

a distinctive feature which has been unequalled. It is the acknowledged leader.

E. M. DART MFG. CO., Providence, R. I.

EXHAUST FANS—See BLOWERS.

EXHAUST HEADS.
Sturtevant Co., B. F., Hyde Park, Mass.
Walworth Mfg. Co., Boston, Mass.

EXPANSION JOINTS.
National Tube Co., Pittsburg, Pa.
Power Specialty Co., New York.

FANS—See BLOWERS.

FAUCETS—WOODEN.
Boston & Lockport Block Co., Boston, Mass.

FEED CHECK VALVES—See VALVES.

FEED-WATER HEATERS AND PURIFIERS.
Griscom-Spencer Co., New York.
Wheeler Condenser and Engineering Co., Carteret, N. J.
Wheeler, C. H., Mfg. Co., Philadelphia, Pa.
Williamson Bros. Co., Philadelphia, Pa.
Willock, Reid & Co., Glasgow.

FEED-WATER REGULATORS.
Jerguson Mfg. Co., Boston, Mass.

FERRO-VANADIUM.
American Vanadium Co., Pittsburg, Pa.

FERRY BOAT LAMPS—See LAMPS.

FILES.
Nicholson File Co., Providence, R. I.

FILTERS.
Griscom-Spencer Co., New York.
Willock, Reid & Co., Glasgow.

FIRE DEPARTMENT SUPPLIES.
Hayward, S. F., & Co., New York.
Morse, Andrew J., & Son, Inc., Boston, Mass.

FIRE EXTINGUISHERS.
Hayward, S. F., & Co., New York.
Morse, Andrew J., & Son, Inc., Boston, Mass.

FIRE HOSE—See HOSE.

FIREPROOF CONSTRUCTION.
Composite Board Co., New York.
Johns-Manville, H. W., Co., New York.

FIREPROOF LUMBER—See LUMBER, FIREPROOF.

FIRE PUMPS—See PUMPS.

FLANGES.
Dart, E. M., Mfg. Co., Providence, R. I.
Lunkenheimer Co., Cincinnati, Ohio.
National Tube Co., Pittsburg, Pa.

FLANGING PRESSES.
Niles-Bement-Pond Co., New York.
Watson-Stillman Co., New York.

FLEXIBLE SHAFTING.
Stow Flexible Shaft Co., Philadelphia, Pa.
Stow Mfg. Co., Binghamton, N. Y.

FLOATING DRY DOCKS—See DRY DOCKS.

FLUE CLEANERS—See BOILER FLUE CLEANERS.

FLUE CUTTERS.
Independent Pneumatic Tool Co., Chicago and New York.

FLUE ROLLERS.
Independent Pneumatic Tool Co., Chicago and New York.

FORCED DRAFT—See also BLOWERS.
American Blower Co. and Sirocco Engineering Co., Detroit, Mich.
De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Sturtevant Co., B. F., Hyde Park, Mass.

FORGES.
Sturtevant Co., B. F., Hyde Park, Mass.

FORGINGS, BRONZE—See also DROP FORGINGS.
Hyde Windlass Co., Bath, Maine.
Lumen Bearing Co., Buffalo, N. Y.

FORGINGS, VANADIUM.
American Vanadium Co., Pittsburg, Pa.

FUEL ECONOMIZERS.
Brown, John, & Co., New York.
Griscom-Spencer Co., New York.
Power Specialty Co., New York.
Sturtevant Co., B. F., Hyde Park, Mass.

FURNACES—Also see CORRUGATED FURNACES.
Brown, John, & Co., Ltd., New York.
Continental Iron Works, New York.

FUSIBLE PLUGS.
Griscom-Spencer Co., New York.

GAFFS.
British Mannesman Tube Co., Ltd., London.

GAS BLOWERS AND EXHAUSTERS.
American Blower Co., Detroit, Mich.
Sturtevant Co., B. F., Hyde Park, Mass.

GASKETS—Also see PACKING.
Crandall Packing Co., Palmyra, N. Y.
Holmes Metallic Packing Co., Wilkesbarre, Pa.
Johns-Manville, H. W., Co., New York.
Katzenstein & Co., L., New York.
New York Belting & Packing Co., Ltd., New York.
Peerless Rubber Mfg. Co., New York.
Power Specialty Co., New York.
Smooth-On Mfg. Co., Jersey City, N. J.
Taunton-New Bedford Copper Co., New Bedford, Mass.

(Index continued on page 47.)

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

ALL THERE IS TO
SAY ON A FILE!

NICHOLSON FILE COMPANY

PROVIDENCE, R. I., U. S. A.

Files for Every Filing Purpose. 3500 Styles and Sizes
Write for Catalogue and a Copy of "File Filosophy"

GASOLINE ENGINES—Also see LAUNCHES AND YACHTS; also KEROSENE ENGINES.
Barber Brothers, Syracuse, N. Y.
Bridgeport Motor Co., Bridgeport, Conn.
Buffalo Gasolene Motor Co., Buffalo, N. Y.
Clifton Motor Works, Cincinnati, Ohio.
Gas Engine & Power Co., & Chas. L. Seabury & Co., Consol., Morris Heights, N. Y.
Hyde Windlass Co., Bath, Maine.
Mietz, A., New York.
Page Engineering Co., Baltimore, Md.
Standard Motor Construction Co., Jersey City, N. J.
Tasker & Strawbridge, Philadelphia, Pa.
Truscott Boat Manufacturing Co., St. Joseph, Mich.

GAS ENGINE SPECIALTIES.
Lunkenheimer Co., Cincinnati, Ohio.
Powell, Wm., Co., Cincinnati, Ohio.

GAS PRODUCERS—See MARINE GAS PRODUCERS.

GATE VALVES—See VALVES.

GAUGE BOARDS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.

GAUGE COCKS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Jerguson Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
National Tube Co., Pittsburg, Pa.
Powell, Wm., Co., Cincinnati, Ohio.
Walworth Mfg. Co., Boston, Mass.

GAUGES—See STEAM GAUGES.

GAUGE GLASSES.
Jerguson Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.

GAUGE TESTERS AND TEST PUMPS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.

GEAR CUTTING MACHINES.
Brown & Sharpe Mfg. Co., Providence, R. I.

GENERATORS—See ELECTRIC PLANTS.

GLOBE VALVES—See VALVES.

GLUE—MARINE.
Ferdinand, L. W., & Co., Boston, Mass.

GONGS.
National Tube Co., Pittsburg, Pa.

GOVERNORS—See PUMP GOVERNORS.

GRAPHITE.
Dixon, Jos., Crucible Co., Jersey City, N. J.

GRATE BARS.
Griscom-Spencer Co., New York.

GREASE—See LUBRICANTS.

GREASE CUPS—See LUBRICATORS.
Griscom-Spencer Co., New York.
Penberthy Injector Co., Detroit, Mich.

GREASE EXTRACTORS.

GRINDING MACHINES—Also see TOOLS, MACHINE.
Brown & Sharpe Mfg. Co., Providence, R. I.
Stow Flexible Shaft Co., Philadelphia, Pa.

GYPSEYS.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland, Ohio.
Hyde Windlass Co., Bath, Maine.

HAMMERS, PNEUMATIC—See PNEUMATIC TOOLS.

HARDWARE—See CHANDLERY STORES.

HAWSERS—See WIRE ROPE.

HEATERS—BATH, LAVATORY, SHOWER.
Sands, A. B., & Son Co., New York.

HEATING AND VENTILATING APPARATUS.
American Blower Co., Detroit, Mich.
Sturtevant Co., B. F., Hyde Park, Mass.

HEMP—See TWINE.

HOISTING ENGINES.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland, Ohio.
Hyde Windlass Co., Bath, Me.
Lidgerwood Mfg. Co., New York.
Williamson Bros. Co., Philadelphia, Pa.

HOISTS, ELECTRIC—See ELECTRIC HOISTS.

HOLLOW SHAFTING.
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

HOLLOW STAYBOLTS—IRON OR STEEL.
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

HOSE—See AIR HOSE.
Eureka Fire Hose Mfg. Co., New York.
Hayward, S. F., & Co., New York.
Independent Pneumatic Tool Co., Chicago and New York.
New York Belting & Packing Co., Ltd., New York.

HOSE COUPLING.
Eureka Fire Hose Co., New York.
Hayward, S. F., & Co., New York.
Independent Pneumatic Tool Co., Chicago and New York.
National Tube Co., Pittsburg, Pa.

HOSE NOZZLES.
Hayward, S. F., Co., New York.
Morse, Andrew J., Son, Inc., Boston, Mass.

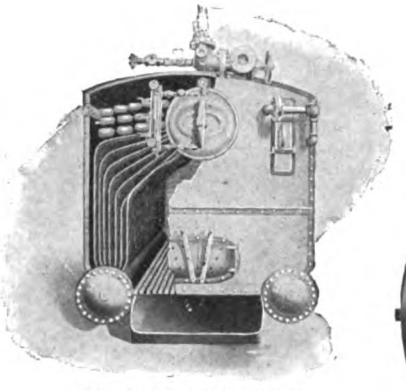
(Index continued on page 48.)

Generated on 2024-09-12 07:33 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

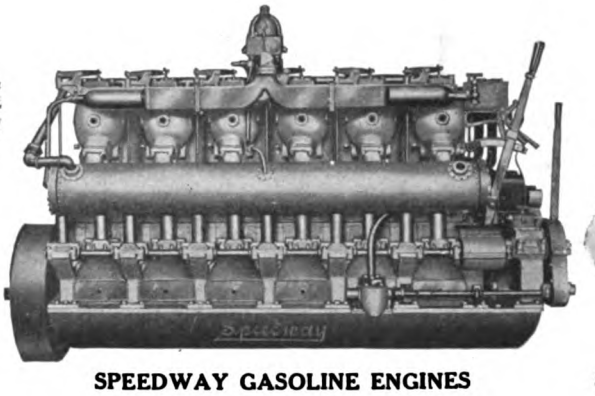
Gas Engine & Power Co., and Charles L. Seabury & Co. (Consolidated)

ENGINEERS, DESIGNERS & BUILDERS YACHTS & LAUNCHES

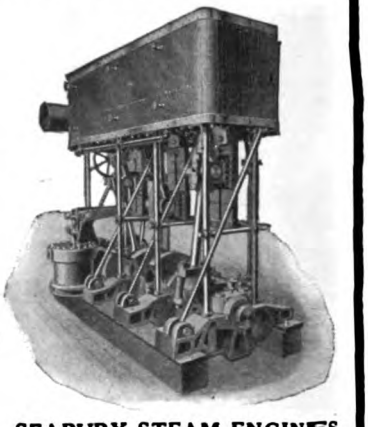
AND



SEABURY BOILERS



SPEEDWAY GASOLINE ENGINES



SEABURY STEAM ENGINES

25 YEARS' EXPERIENCE IN MARINE CONSTRUCTION

Send 10 Cents in Stamps for Catalogue

YARDS AND OFFICES:

MORRIS HEIGHTS, NEW YORK CITY, N. Y.

HYDRAULIC JACKS.
Watson-Stillman Co., New York.

HYDRAULIC MACHINERY—RIVETERS, PUNCHES, SHEARS.
Niles-Bement-Pond Co., New York.
Watson-Stillman Co., New York.

HYDRAULIC VALVES AND FITTINGS.
Watson-Stillman Co., New York.

ICE MACHINES—See REFRIGERATING PLANTS.

INDICATOR CONNECTIONS.
Lunkenheimer Co., Cincinnati, Ohio.

INDICATORS—GAS ENGINE.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.

INDICATORS—STEAM.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
Powell Co., The, Wm., Cincinnati, Ohio.
Star Brass Mfg. Co., Boston, Mass.

INDUCED DRAFT.
American Blower Co., Detroit, Mich.
Brown, John, & Co., Ltd., New York.
Sturtevant Co., B. F., Hyde Park, Mass.

INJECTORS.
Lunkenheimer Co., Cincinnati, Ohio.
Penberthy Injector Co., Detroit, Mich.
Powell Co., The Wm., Cincinnati, Ohio.

INTERLOCKING RUBBER TILING.
Griscom-Spencer Co., New York.
New York Belting & Packing Co., Ltd., New York.

IRON AND STEEL MATERIAL.
Willock, Reid & Co., Glasgow.

IRON CEMENT.
Smooth-On Mfg. Co., Jersey City, N. J.

JACKS—PNEUMATIC.
Independent Pneumatic Tool Co., Chicago and New York.

JACKS FOR UNCOUPLING SHAFTS.
Watson-Stillman Co., New York.

JOURNAL BEARINGS—See THRUST BEARINGS.

JUTE.
Columbian Rope Co., Auburn and New York.

KEROSENE ENGINES.
Mietz, A., New York.
Tasker & Strawbridge, Philadelphia, Pa.

LAMPS, SIGNALS, AND FIXTURES.
General Electric Co., Schenectady, N. Y.
Johns-Manville, H. W., Co., New York.

LATHES, CRANK SHAFT.
Niles-Bement-Pond Co., New York.

LATHES, ENGINE.
Niles-Bement-Pond Co., New York.
Pratt & Whitney Co., New York.

LATHES, TURRET.
Brown & Sharpe Mfg. Co., Providence, R. I.
Niles-Bement-Pond Co., New York.
Pratt & Whitney Co., New York.

LAUNCHES AND YACHTS.
Bridgeport Motor Co., Bridgeport, Conn.
Buffalo Gasolene Motor Co., Buffalo, N. Y.
Electric Launch Co., Bayonne, N. J.
Gas Engine & Power Co., & Chas. L. Seabury & Co., Consol., Morris Heights, N. Y.
Marine Iron Works, Chicago, Ill.
Sisson & Co., Gloucester.
Standard Motor Construction Co., Jersey City, N. J.
Tasker & Strawbridge, Philadelphia, Pa.
Truscott Boat Manufacturing Co., St. Joseph, Mich.
Welin Davit and Lane & De Groot Co., New York.

LAVATORIES—FOLDING, STATIONARY, STATEROOM.
Sands, A. B., & Son Co., New York.

LIFE BOATS AND RAFTS.
Welin Davit and Lane & De Groot Co., New York.

LIFE PRESERVERS.
Armstrong Cork Co., Pittsburg, Pa.
Ferdinand, L. W., & Co., Boston, Mass.
Welin Davit and Lane & De Groot Co., New York.

LIFE-SAVING DEVICES.
Lane & De Groot Co., New York.
Welin, Axel, London.
Welin Davit and Lane & DeGroot Co., New York.

LIQUID FUEL.
British Petroleum Co., Ltd., London.

LOG REGISTERS.
Welin Davit and Lane & DeGroot Co., Con., New York.

LUBRICANTS.
Dixon, Jos., Crucible Co., Jersey City, N. J.
Power Specialty Co., New York.

LUBRICATING BOXES FOR PROPELLER SHAFTS.
Cedervall, F. R., & Söner, Gothenburg, Sweden.

(Index continued on page 49.)

Generated on 2024-09-12 07:32 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

LUBRICATORS.
Griscom-Spencer Co., New York
Lunkenheimer Co., Cincinnati, Ohio.
Penberthy Injector Co., Detroit, Mich.
Powell, Wm., Co., Cincinnati, Ohio.
Star Brass Mfg. Co., Boston, Mass.

LUMBER.
Moran Co., The, Seattle, Wash.

LUMBER—FIREPROOF.
Composite Board Co., New York.

MACHINE TOOLS—See TOOLS, MACHINE.

MALLETS—See CALKING TOOLS.

MANGANESE BRONZE CASTINGS; also see BRONZE.
Griscom-Spencer Co., New York.
Hyde Windlass Co., Bath, Me.
Lumen Bearing Co., Buffalo, N. Y.
Lunkenheimer Co., Cincinnati, Ohio.
Phosphor-Bronze Smelting Co., Philadelphia, Pa.
Reeves, Paul S. & Son, Philadelphia, Pa.
Taunton-New Bedford Copper Co., New Bedford, Mass.

MAGNESIA COVERINGS.
Johns-Manville, H. W., Co., New York.

MANILA AND SISAL ROPE—See ROPE; also CORDAGE.

MARINE BOILER COMPOUNDS—See BOILER COMPOUNDS.

MARINE CABLEWAYS.
Lidgerwood Mfg. Co., New York.

MARINE ENGINES—See ENGINES, PROPELLING.

MARINE GAS PRODUCERS.
Marine Producer Gas Power Co., New York.
Page Engineering Co., Baltimore, Md.
Pole, Thomas C., Philadelphia, Pa.

MARINE GLASSES.
Heath & Co., Ltd., London.

MARINE GLUE.
Ferdinand, L. W., & Co., Boston, Mass.

MARINE HARDWARE.
Ferdinand, L. W. & Co., Boston, Mass.
Peterson, C. F., Co., Philadelphia, Pa.

MARINE LAMPS—See LAMPS.

MARINE RAILWAY BUILDERS—See RAILWAY DRY DOCKS.
Crandall, H. I., & Son Co., East Boston, Mass.

MARINE RANGES—See RANGES.

MASTS, STEEL.
British Mannesman Tube Co., Ltd., London.
Welin Davit and Lane & DeGroot Co., Con., New York.

MECHANICAL DRAFT.
American Blower Co., Detroit, Mich.
Sturtevant Co., B. F., Hyde Park, Mass.

MEGAPHONES—See CHANDLERY STORES.

METALLIC PACKING—Also see PACKING.
Holmes Metallic Packing Co., Wilkesbarre, Pa.
Katzenstein, L., & Co., New York.
Power Specialty Co., New York.
United States Metallic Packing Co., Philadelphia, Pa.

METAL POLISH.
Hoffman, George W., Indianapolis, Ind.

METAL WORKING TOOLS—See TOOLS, MACHINE.

METERS, ELECTRIC.
General Electric Co., Schenectady, N. Y.
Weston Electrical Instrument Co., Waverly Park, Newark, N. J.

MILLING MACHINES.
Brown & Sharpe Mfg. Co., Providence, R. I.
Niles-Bement-Pond Co., New York.
Pratt & Whitney Co., New York.

MINERAL WOOL—See NON-CONDUCTING COVERING.

MONITOR NOZZLES—See HOSE NOZZLES.

MOORING ENGINES.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland, Ohio.
Hyde Windlass Co., Bath, Maine.
Williamson Bros. Co., Philadelphia, Pa.

MOTORS, GASOLINE—See GASOLINE ENGINES.

MULTIPLE DRILLS.
Niles-Bement-Pond Co., New York.
Pratt & Whitney Co., New York.

MULTI-SPEED MOTORS.
Stow Mfg. Co., Binghamton, N. Y.

MUNTZ METAL.
Taunton-New Bedford Copper Co., New Bedford, Mass.

NAUTICAL INSTRUMENTS.
Heath & Co., Ltd., London.

NAVAL ARCHITECTS—See PROFESSIONAL CARDS.

NEEDLE VALVES—See VALVES.

NON-CONDUCTING COVERING.
Johns-Manville, H. W., Co., New York.
Keenan, Matthew, & Co., Ltd., London.

(Index continued on page 50.)

"SANDS" Marine Sanitary Fixtures

Two High Grades—Best Yet Produced

"EMPIRE" PLATE S-5

The highest type of Automatic Pump Water Closet ever produced. All metal parts made of our special non-corrosive metal. Mahogany Seat, Cover and Handle. Price complete with Base-plate **$225.00.**

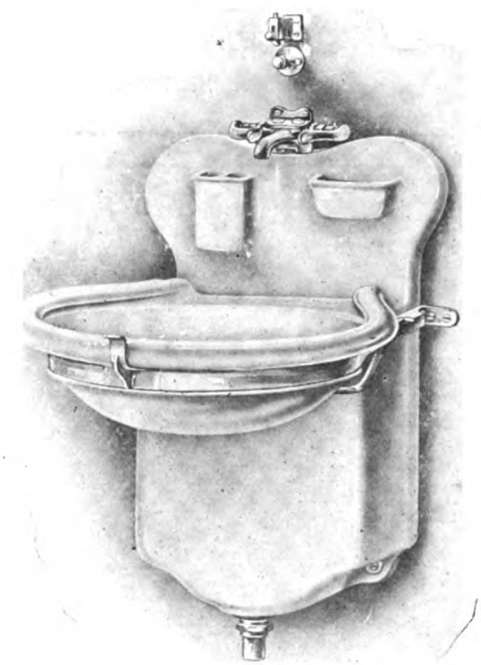


PLATE S-145 *(Open)*

The "Hobron" All Vitro Adamant Glazed White All Over Folding Lavatory with Vitro Adamant soap and tooth brush cups moulded in back. N. P. brass supports and bulk head brackets, catch and bumpers. N. P. brass combination self-closing faucet for hot and cold water. N. P. brass waste coupling and towel rack. Complete as shown and described **$45.00.**

Our latest improvement has catch and protector at the side, and not at top, as illustrated.

Can be fitted with single faucet for cold water only, with pump to take supply from tank in any part of vessel, or with overhead tank to supply by gravity.

Can also be furnished with all metal parts made of our special non-corrosive white metal.

Illustrated Catalogue "E" sent upon request.

A. B. SANDS & SON CO.

Largest Manufacturers in the World of

MARINE PLUMBING SPECIALTIES

22-24 Vesey St., New York, U. S. A.

Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

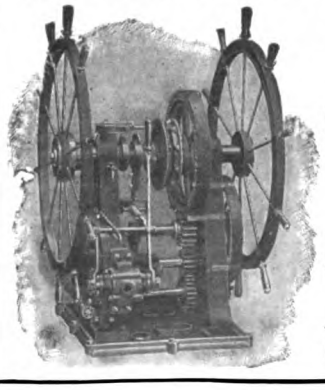
ARMSTRONG SOLID BLOCK LIFE PRESERVERS
STANDARD FOR MATERIAL AND WORKMANSHIP
Each Preserver inspected and stamped by U. S. Inspector
YACHT FENDERS—BUOYS
ARMSTRONG CORK COMPANY
Boston New York Philadelphia Pittsburgh Chicago
St. Louis Baltimore Cincinnati

PITTSBURG PNEUMATIC TOOLS
ABSOLUTELY GUARANTEED
Chipping Hammers, all sizes, $20.00
Hand Riveters, all sizes, $30.00
SEND FOR CIRCULAR "D"
THE PITTSBURG PNEUMATIC CO., Canton, Ohio

MARINE REFRIGERATION
Maximum Amount of Space Cooled at Minimum Consumption of Power and Minimum Space Occupied by Machinery
PERFECT VENTILATION AND AIR PURIFICATION.
Estimates and Designs cheerfully furnished.
AMERICAN LINDE REFRIGERATION COMPANY
346 BROADWAY, NEW YORK

EUREKA FIRE HOSE
Awarded Gold Medal at the St. Louis Exposition for Superiority of Our Goods

TRADE-MARK.
SAFEST AND BEST
FULLY TESTED AND MADE TO LAST
"A word to the wise is sufficient"
Seamless Woven and Rubber-Lined
EUREKA FIRE HOSE
"PARAGON" BRAND Has No Equal
SEND FOR SAMPLE
EUREKA FIRE HOSE MFG. CO.
New York, N. Y.; Boston, Mass.; Chicago, Ill.; Philadelphia, Pa.; Columbus, Ohio; Atlanta, Ga.; Dallas, Texas; Minneapolis, Minn.; Denver, Colo.; Seattle, Wash.; Syracuse, N. Y. Detroit, Mich.

The Dake Pilot House Steam Steerer

A Simple, Compact and Durable Machine
Occupies Small Floor Space
Write for descriptive circulars and prices
THE DAKE ENGINE CO.
GRAND HAVEN, MICH.
New York Office, 120 Liberty St.

NOZZLES—See HOSE NOZZLES.

NUTS—See BOLTS AND NUTS.

OAKUM.
Baltimore Oakum Co., Baltimore, Md.
Welin Davit and Lane & DeGroot Co., Con., New York.

OIL—See LUBRICANTS.

OIL CUPS—See LUBRICATORS.

OIL-FIRING SYSTEMS.
Schutte & Koerting Co., Philadelphia, Pa.

OIL GAUGES.
Lunkenheimer Co., Cincinnati, Ohio.
Powell Co., The Wm., Cincinnati, Ohio.

OIL POLISH—See METAL POLISH.

OIL PUMPS.
Lunkenheimer Co., Cincinnati, Ohio.
Star Brass Mfg. Co., Boston, Mass.

OILING SYSTEMS—Also see LUBRICATION.
Powell Co., Wm., Cincinnati, Ohio.

PACKING—Also see METALLIC PACKING.
Crandall Packing Co., Palmyra, N. Y.
Johns-Manville, H. W., Co., New York.
New York Belting & Packing Co., Ltd., New York.
Peerless Rubber Mfg. Co., New York.
Power Specialty Co., New York.

PACKING, ASBESTOS.
Crandall Packing Co., Palmyra, N. Y.
Johns-Manville, H. W., Co., New York.

PAINT—Also see GRAPHITE.
Dixon, Jos., Crucible Co., Jersey City, N. J.

PATENT ATTORNEYS—See ATTORNEYS, PATENT.

PETROL ENGINES—See GASOLINE ENGINES.

PETROLEUM.
British Petroleum Co., Ltd., London.

PHOSPHOR BRONZE CASTINGS.
Griscom-Spencer Co., New York.
Hyde Windlass Co., Bath, Me.
Lumen Bearing Co., Buffalo, N. Y.
Lunkenheimer Co., Cincinnati, Ohio.
Phosphor Bronze Smelting Co., Philadelphia, Pa.
Reeves, Paul S., & Son, Philadelphia, Pa.

PIEZOMETERS, NOZZLE.
American Steam Gauge & Valve Co., Boston, Mass.

PIPE COVERING—See NON-CONDUCTING COVERING.

PIPE CUTTING AND THREADING MACHINES.
Niles-Bement-Pond Co., New York.

PIPE FLANGES—See FLANGES.

PIPE UNIONS.
Dart, E. M., Mfg. Co., Providence, R. I.
Lunkenheimer Co., Cincinnati, Ohio.
National Tube Co., Pittsburg, Pa.
Powell Co., The Wm., Cincinnati, Ohio.

PIPE WRENCHES.
Billings & Spencer Co., Hartford, Conn.
Williams & Co., J. H., Brooklyn, N. Y.

PLANERS, STANDARD METAL WORKING AND ROTARY.
Niles-Bement-Pond Co., New York.

PLANERS, SHIP PLATE.
Niles-Bement-Pond Co., New York.

PLANIMETERS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Star Brass Mfg. Co., Boston, Mass.

PLATE-BENDING ROLLS.
Niles-Bement-Pond Co., New York.

PLUMBAGO—Also see GRAPHITE.
Dixon, Jos., Crucible Co., Jersey City, N. J.

PLUMBING—Also see CHANDLERY STORES.
Davidson, M. T., Co., New York.
Sands, Alfred B. & Son Co., New York.

PNEUMATIC SEPARATORS.
Sturtevant Co., B. F., Hyde Park, Mass.

(Index continued on page 51.)

Generated on 2024-09-12 07:43 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

PNEUMATIC TOOLS—Also see AIR COMPRESSORS.
Independent Pneumatic Tool Co., Chicago and New York.
Pittsburg Pneumatic Co., Canton, Ohio.
Stow Flexible Shaft Co., Philadelphia, Pa.

POLISH—See METAL POLISH.

POPPET VALVES—See VALVES.

PORTABLE CYLINDER BORING BARS—See CYLINDER BORING BARS.

PORTABLE DRILLS.
General Electric Co., Schenectady, N. Y.
Stow Flexible Shaft Co., Philadelphia, Pa.
Stow Mfg. Co., Binghamton, N. Y.

PORTABLE TOOLS.
Stow Flexible Shaft Co., Philadelphia, Pa.

PORT LIGHTS.
Petersen, C. F., Co., Philadelphia, Pa.

POWER PUMPS AND SHEARS—See TOOLS, MACHINE.

PRESSURE REGULATORS.
Mason Regulator Co., Boston, Mass.

PRODUCERS—See MARINE GAS PRODUCERS.

PROFESSIONAL CARDS.
Cox & Stevens, New York.
Decker, Delbert H., Washington, D. C.
Donnelly, W. T., New York.
Tasker & Strawbridge, Philadelphia, Pa.
Whittelsey & Whittelsey, New York.

PROPELLER WHEELS.
Donnelly, W. T., New York.
Hyde Windlass Co., Bath, Me.
Reeves, Paul S., & Sons, Philadelphia, Pa.
Roelker, H. B., New York.
Sheriffs Mfg. Co., Milwaukee, Wis.
Trout, H. G., Co., Buffalo, N. Y.

PROPELLING ENGINES—See ENGINES, PROPELLING.

PUBLICATIONS—See BOOKS.

PUMPS.
Blake & Knowles Steam Pump Works, New York.
Boston & Lockport Block Co., Boston, Mass.
Davidson, M. T., Co., New York.
De Laval Steam Turbine Co., Trenton, N. J.
Griscom-Spencer Co., New York.
Hyde Windlass Co., Bath, Me.
Kingsford Foundry & Machine Works, Oswego, N. Y.
Morris Machine Works, Baldwinsville, N. Y.
Sands, A. B., & Son Co., New York.
Wheeler, C. H., Mfg. Co., Philadelphia, Pa.
Wheeler Condenser & Engineering Co., New York.

PUMP GOVERNORS.
Ideal Automatic Mfg. Co., New York.
Matteson & Drake, New York.

PUNCHES AND DIES.
Richards, I. P., Co., Providence, R. I.

PUNCHING MACHINES, HYDRAULIC, POWER AND HAND.
Cincinnati Punch and Shear Company, Cincinnati, Ohio.
Niles-Bement-Pond Co., New York.
Watson-Stillman Co., New York.

PYROMETERS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.

QUADRANT DAVITS—See DAVITS.

RAFTS—See LIFE BOATS AND RAFTS.

RAILWAY DRY DOCKS.
Crandall, H. I., & Son Co., East Boston, Mass.

RANGE FINDERS.
Nicholson Ship Log Co., Cleveland, Ohio.

RANGES.
Sands, A. B., & Son Co., New York.

RASPS.
Nicholson File Co., Providence, R. I.

REAMERS.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Pratt & Whitney Co., New York.

REAMERS—PNEUMATIC.
Brown & Sharpe Mfg. Co., Providence, R. I.
Independent Pneumatic Tool Co., Chicago and New York.

RECORDING GAUGES.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.

REDUCING VALVES.
Mason Regulator Co., Boston, Mass.

REDUCING WHEELS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.

(Index continued on page 52.)

THE MOST CONVENIENT WRENCH FOR INCONVENIENT PLACES

THE B. & S. ADJUSTABLE "S" NUT WRENCH AND PIPE WRENCH

In these two wrenches every part is a drop forging. The wrenches are fitted with double groove sliding jaw, and patent nurl locking device.

Don't fail to send for our New Catalog

THE BILLINGS & SPENCER CO.
LONDON, 8 Long Lane, Aldersgate St. HARTFORD, CONN.

THIS WATSON-STILLMAN HYDRAULIC JACK

renders much labor unnecessary. The wheels on the base and the handle on the cylinder facilitate moving the jack quickly and without the exertion of much energy. The wheels aren't in the way when lifting, for they touch the floor only when the jack is tilted.

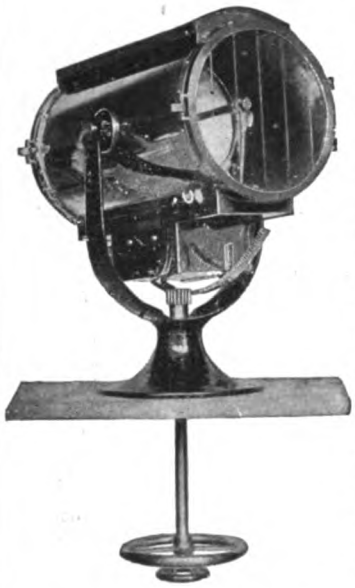
This jack can be laid flat and worked horizontally to the entire lifting length of the ram. It will not stop short from lack of filling, even if there has been slight leakage. For lifts from near the ground an independent steel claw (not shown) may be used. The claw can be removed at other times, so the jack is lighter for ordinary work than if the claw were permanently attached.

This jack has the usual Watson-Stillman characteristics of strength and safety under a considerably greater load than the rating. If it won't do, you'll find one among our 450 types and sizes that will. Ask for Jack Catalogue, No. 68.

THE WATSON-STILLMAN CO.
188 FULTON STREET NEW YORK
21

Generated on 2024-09-12 07:39 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

SEARCHLIGHT PROJECTORS



All sizes from 7 inch diameter to 38 inch diameter, suitable for River, Lake and Ocean Steamers.

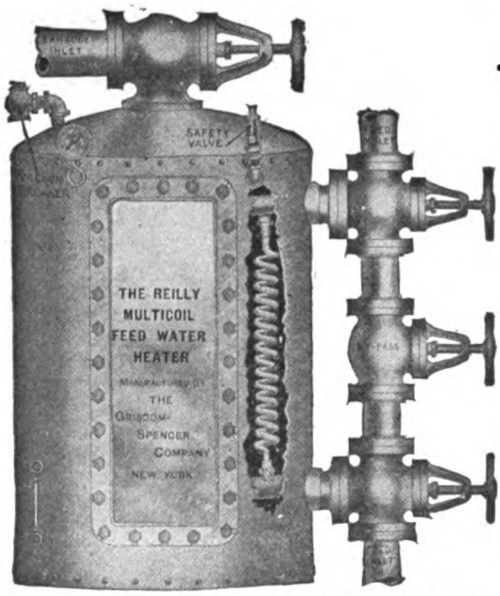
Complete Electric Light Plants.

Our Searchlights are the recognized standard, and are used on more vessels than all other makes combined.

Catalog "A" on request.

THE CARLISLE & FINCH CO.

No. 234 East Clifton Avenue CINCINNATI, OHIO



Do you know that a "Reilly" Multicoil Heater SAVES in one year TWICE enough coal to pay for the HEATER?

It saves 1% for every 10° heated. It raises the feed water to 230°.

10% to 15% increased CONDENSER CAPACITY.

10% increased BOILER CAPACITY.

No leaky joints due to sudden strains when cold water hits hot plate.

THE GRISCOM-SPENCER CO., 90 WEST STREET NEW YORK

REFLEX WATER GAUGES.
Jerguson Mfg. Co., Boston, Mass.

REFRIGERATING ENGINEERS—See ENGINEERS, CONSULTING.

REFRIGERATING PLANTS.
American Linde Refrigeration Co., New York.
Reynolds Ice Machine Co., New York.
Roelker, H. B., New York.

REGRINDING VALVES—See VALVES.

RELEASING GEAR.
Welin Davit and Lane & DeGroot Co., Con., New York.

RELIEF VALVES—See VALVES.

REVERSING ENGINES.
Chase Machine Co., Cleveland, Ohio.
Forbes, W. D., Mfg. Co., New London, Conn.
Stow Flexible Shaft Co., Philadelphia, Pa.

REVOLUTION COUNTERS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Ashton Valve Co., Boston, Mass.
Star Brass Mfg. Co., Boston, Mass.

RHEOSTATS.
General Electric Co., Schenectady, N. Y.
Simplex Electric Heating Co., Cambridge, Mass.

RIGGING—See WIRE ROPE.

RIVETING MACHINES, HYDRAULIC AND STEAM POWER.
Independent Pneumatic Tool Co., Chicago and New York.
Niles-Bement-Pond Co., New York.
Pittsburg Pneumatic Co., Canton, Ohio.
Stow Flexible Shaft Co., New York.

RIVETERS, PNEUMATIC.
Independent Pneumatic Tool Co., Chicago and New York.
Pittsburg Pneumatic Co., Canton, Ohio.
Stow Flexible Shaft Co., Philadelphia, Pa.

ROLLER BEARINGS—See THRUST BEARINGS.

ROLLS, BENDING AND STRAIGHTENING.
Niles-Bement-Pond Co., New York.

ROPE—Also see WIRE ROPE, TRANSMISSION ROPE, and MANILA AND SISAL ROPE.
Columbian Rope Co., Auburn and New York.
Griscom-Spencer Co., New York.
Phosphor-Bronze Smelting Co., Ltd., Philadelphia, Pa.
Plymouth Cordage Co., North Plymouth, Mass.

ROTARY BLOWERS—See BLOWERS.

ROWBOATS—See LAUNCHES AND YACHTS.

RUBBER GOODS—Also see PACKING—Also see INTERLOCKING RUBBER TILING.
Griscom-Spencer Co., New York.
New York Belting & Packing Co., Ltd., New York.
Peerless Rubber Mfg. Co., New York.

RUBBER TILING—See INTERLOCKING RUBBER TILING.

RUBBER VALVES—See VALVES, RUBBER.

SAFETY VALVES—See VALVES.
Welin Davit and Lane & DeGroot Co., Con., New York.

SANITARY FITTINGS—See PLUMBING.

SANITARY PUMPS—See PLUMBING.

SEARCHLIGHTS.
General Electric Co., Schenectady, N. Y.

SENTINEL VALVES—See VALVES.

SEPARATORS—PNEUMATIC—See PNEUMATIC SEPARATORS.

SHAFTING—HOLLOW CHARCOAL IRON OR STEEL.
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.
National Tube Co., Pittsburg, Pa.

SHAFT STEEL—See STEEL SHAFTING.

SHEARING MACHINES, HYDRAULIC, STEAM POWER AND HAND.
Cincinnati Punch and Shear Company, Cincinnati, Ohio.
Niles-Bement-Pond Co., New York.
Watson-Stillman Co., New York.

SHEATHING METAL—See YELLOW METAL; also BRASS AND COPPER.

SHEAVES—METALINE AND PHOSPHOR-BRONZE.
Boston & Lockport Block Co., Boston, Mass.

SHEETING, ASBESTOS.
Johns-Manville Co., H. W., New York.
Keenan, Matthew, & Co., Ltd., London.

SHEET IRON.
Toledo Shipbuilding Co., Toledo, Ohio.

(Index continued on page 53.)

Generated on 2024-09-12 07:41 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

SHIPBUILDERS AND DRY DOCK COMPANIES.
Atlantic Works, East Boston, Mass.
Bath Iron Works, Bath, Me.
Fiat-San Giorgio, Ltd., Fiat-San Giorgio-Spezia, Italy.
Fletcher, W. & A. Co., Hoboken, N. J.
Fore River Shipbuilding Co., Quincy, Mass.
Gas Engine & Power Co., & Chas. L. Seabury & Co., Consol., Morris Heights, N. Y.
Halifax Graving Dock Co., Halifax, Nova Scotia.
Hastie, John, & Co., Ltd., Greenock.
Marine Iron Works, Chicago, Ill.
Marvel, T. S., Shipbuilding Co., Newburg, N. Y.
Maryland Steel Co., Sparrow's Point, Md.
Merrill-Stevens Co., Jacksonville, Fla.
Moran Co., The, Seattle, Wash.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Tietjen & Lang Dry Dock Co., Hoboken, N. J.
Toledo Shipbuilding Co., Toledo, Ohio.

SHIP CHANDLERS—See CHANDLERY STORES.

SHIP FITTINGS.
British Mannesman Tube Co., Ltd., London.
Ferdinand, L. W., & Co., Boston, Mass.
Griscom-Spencer Co., New York.

SHIP LOCKS—See LOCKS, SHIPS'.

SHIP LOGS AND SPEED INDICATORS.
Nicholson Ship-Log Co., Cleveland, Ohio.

SHIP STORES—See CHANDLERY STORES.

SHIPYARDS—See SHIPBUILDERS.

SHOWER BATHS—See PLUMBING.

SLOTTING MACHINES.
Niles-Bement-Pond Co., New York.

SMOOTH-ON.
Smooth-On Mfg. Co., Jersey City, N. J.

SPEED INDICATORS FOR SHIPS, YACHTS AND MOTOR BOATS.
Nicholson Ship Log Co., Cleveland, Ohio.

STAYBOLT CUTTERS—See STAYBOLT NIPPERS.

STAYBOLT IRON OR STEEL, HOLLOW AND SOLID.
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

STAYBOLT NIPPERS.
Stow Flexible Shaft Co., Philadelphia, Pa.

STEAM CIRCULATORS.
Bloomsburg, H., & Co., Baltimore, Md.

STEAM ENGINE INDICATORS—See INDICATORS.

STEAM ENGINES—See ENGINES.

STEAM GAUGES.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
Walworth Mfg. Co., New York.

STEAM HAMMERS.
Niles-Bement-Pond Co., New York.

STEAM AND HOT-BLAST APPARATUS.
American Blower Co., Detroit, Mich.
Sturtevant Co., B. F., Hyde Park, Mass.

STEAM JETS.
Bloomsburg, H., & Co., Baltimore, Md.

STEAM PUMPS—See PUMPS.

STEAM SEPARATORS.
Griscom-Spencer Co., New York.

STEAM SPECIALTIES.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Ashton Valve Co., Boston, Mass.
Jerguson Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
Mason Regulator Co., Boston, Mass.
National Tube Co., Pittsburg, Pa.
Powell, Wm., Co., Cincinnati, Ohio.
Power Specialty Co., New York.
Star Brass Mfg. Co., Boston, Mass.
Walworth Mfg. Co., Boston, Mass.

STEAM SUPERHEATERS.
Power Specialty Co., New York.

STEAM TRAPS.
American Blower Co., Detroit, Mich.
Sturtevant Co., B. F., Hyde Park, Mass.
Walworth Mfg. Co., Boston, Mass.

STEAM TURBINES.
Bath Iron Works, Bath, Me.
De Laval Steam Turbine Co., Trenton, N. J.
Fletcher, W. & A., Co., Hoboken, N. J.
Fore River Shipbuilding Co., Quincy, Mass.
General Electric Co., Schenectady, N. Y.
Quintard Iron Works Co., New York.
Terry Steam Turbine Co., Hartford, Conn

(Index continued on page 54.)

ECONOMY OF STEAM MEANS SAVING OF COAL

Mason Reducing Valves

allow you to regulate and maintain an even pressure of steam or air.

Changes in the initial pressure do not affect them.

Exact adjustment is made possible by careful and accurate workmanship.

Write Us for Information stating your needs. We will send our catalogue and answer inquiries personally.

Mason Regulator Co.
BOSTON, MASS., U. S. A.
FOR SALE ALL OVER THE WORLD.

GENUINE STILLSON WRENCHES

Made by the
Walworth Mfg. Co.
BOSTON, U. S. A.

Bear This Trade Mark

See that your dealer gives you the *Genuine* "Stillson," stamped

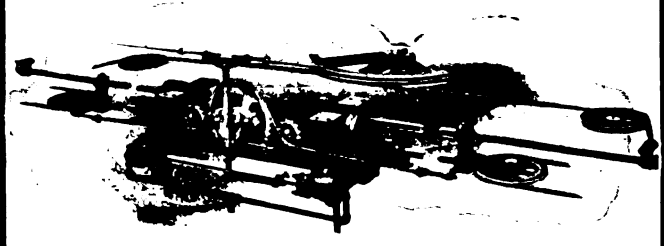
TRADE MARK STILLSON REGISTERED U.S. PATENT OFFICE

It's Your Protection Against Inferior Imitations

BOSTON: 128-136 Federal Street
NEW YORK OFFICE: Park Row Building
LONDON OFFICE: H. Munzing,
180 Upper Thames Street, E. C.

Write for RED BOOKLET showing complete line of Pipe Fitting Tools

Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



12 REASONS WHY YOU SHOULD CHOOSE

THE NASH-CENTURY STEERING ENGINE

1.—**Close Control.** A movement of one spoke of the wheel changes the course of the boat. No lost motion between wheel and quadrant.

2.—**Power Greatest When Most Needed.** The Nash-Century does its work just as accurately in the "hard over" position as though there were then no pressure on the rudder.

3.—**Rudder Protected From Damage.** Steam-cushioning permits the rudder to yield momentarily in case of its collision with solid objects, thus preventing damage to pintles, etc.

4.—**No Vibration or Noise.** There is absolutely no jar or sound as the piston floats back and forth. The action of the engine is noticeable only through change in the course of the boat.

5.—**Adjustability of Steering Wheel Movement.** The wheel may be geared to meet any conditions.

6.—**No Waste of Steam.** The cylinder is heavily lagged and always under steam. The tendency toward condensation is less than when the action is intermittent and the cylinders cool between operations.

7.—**Ample Power.** 50 lbs. pressure is sufficient for operation, but any available boiler pressure may be used.

8.—**Compactness.** The Nash-Century goes into half the space and weighs about half as much as any other engine that does the same work.

9.—**Simplicity.** Few working parts and these are subject to a little or no wear.

10.—**No Large Bearings.** This means less attention, less steam, less wear and less trouble all around.

11.—**Adaptability to Position.** Can be mounted on the deck, on a bulkhead or swung from underneath a deck beam, and it may occupy any position with reference to the quadrant.

12.—**Low Cost.** The Nash-Century Engine is more economical in **first cost** and in **upkeep** than any other that will do the same work. These vital points are exclusive in our design. If you are further interested in the steerer that appeals to experienced marine engineers, write for our catalog.

Century Engineering Co.

Ogdensburg, N. Y.

STEAM TURBINE DYNAMOS.
De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.

STEEL BALLS.
Bantam Anti-Friction Co., Bantam, Conn.

STEEL AND IRON MATERIAL.
Willock, Reid & Co., Glasgow.

STEERING GEARS.
Dake Engine Co., Grand Haven, Mich.
Century Engineering Co., Ogdensburg, N. Y.
Forbes, W. D., Mfg. Co., New London, Conn.
Hyde Windlass Co., Bath, Maine.
Williamson Bros. Co., Philadelphia, Pa.

STEERING ENGINES.
Century Engineering Co., Ogdensburg, N. Y.
Chase Machine Co., Cleveland, Ohio.
Dake Engine Co., Grand Haven, Mich.
Forbes, W. D., Mfg. Co., New London, Conn.
Hyde Windlass Co., Bath, Me.
Lidgerwood Mfg. Co., New York.
Sheriffs Mfg. Co., Milwaukee, Wis.
Williamson Bros. Co., Philadelphia, Pa.

STEERING WHEELS.
Hyde Windlass Co., Bath, Maine.
Williamson Bros. Co., Philadelphia, Pa.

STOP COCKS—See VALVES.

STOVES—See RANGES.

STRAIGHTENING ROLLS—See ROLLS.

SUPERHEATERS—See STEAM SUPERHEATERS.

SURFACE CONDENSERS—See CONDENSERS.

SWITCHBOARDS—See ELECTRICAL INSTRUMENTS.

TACKLE BLOCKS—See BLOCKS.

TANKS—COPPER, GALVANIZED IRON.
Griscom-Spencer Co., New York.
Sands, A. B., & Son Co., New York.

THERMOMETERS.
Heath & Co., Ltd., London.
Star Brass Mfg. Co., Boston, Mass.

THREADING AND CUTTING MACHINES—See PIPE-THREADING AND CUTTING MACHINES.

THROTTLE VALVES—See VALVES.

THRUST BEARINGS.
Bantam Anti-Friction Co., Bantam, Conn.
Tasker & Strawbridge, Philadelphia, Pa.

TILING—See INTERLOCKING RUBBER TILING.

TOILET ACCESSORIES.
Sands, A. B., & Son Co., New York.

TOOLS, MACHINE.
Brown & Sharpe Mfg. Co., Providence, R. I.
Niles-Bement-Pond Co., New York.
Pratt & Whitney Co., New York.
Stow Flexible Shaft Co., Philadelphia, Pa.
Stow Mfg. Co., Binghamton, N. Y.

TOOLS, MACHINISTS' AND CARPENTERS'—See BENCH TOOLS.

TOWING HOOKS AND CHOCKS.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland, Ohio.

TOWING MACHINES.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland, Ohio.

TRANSMISSION ROPE—See ROPE.

TRAPS—See STEAM TRAPS.

TRUCKS, WAREHOUSE.
Boston & Lockport Block Co., Boston, Mass.

TUBES—See BOILER TUBES; also BRASS AND COPPER.

TUBE CLEANERS—See BOILER-FLUE CLEANERS.

TUBE CUTTERS—See BOILER TUBE CUTTERS.

TUBE EXPANDERS.
Pratt & Whitney Co., New York.
Watson-Stillman Co., New York.

TUGS—See SHIPBUILDERS.

TURBINES—See STEAM TURBINES.

TURNING ENGINES.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland, Ohio.
Forbes, W. D., Mfg. Co., New London, Conn.

TURRET LATHES—See LATHES, TURRET.

(Index continued on page 55.)

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

TWENTIETH CENTURY LINOLEUM GLUE-CEMENT.
Ferdinand, L. W., & Co., Boston, Mass.

TWINE—See ROPE—Also CORDAGE.
Columbian Rope Co., Auburn, N. Y.
Plymouth Cordage Co., North Plymouth, Mass.

TWIST DRILLS.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Pratt & Whitney Co., New York.

UNIONS—See PIPE UNIONS.

VACUUM GAUGES—See STEAM GAUGES.

VALVES—Also see RUBBER VALVES AND WATER VALVES.
American Steam Gauge & Valve Co., Boston, Mass.
Ashton Valve Co., Boston, Mass.
Jerguson Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
Mason Regulator Co., Boston, Mass.
National Tube Co., Pittsburg, Pa.
Powell, Wm., Co., Cincinnati, Ohio.
Power Specialty Co., New York.
Schutte & Koerting Co., Philadelphia, Pa.
Star Brass Mfg. Co., Boston, Mass.
Walworth Mfg. Co., Boston, Mass.

VALVES, RUBBER.
Crandall Packing Co., Palmyra, N. Y.

VALVES, WATER.
Continental Iron Works, Brooklyn, N. Y.
Jerguson Mfg. Co., Boston, Mass.

VANADIUM STEEL.
American Vanadium Co., Pittsburg, Pa.

VARNISH—See PAINT.

VENTILATING FANS—See BLOWERS.

VENTILATORS.
Sands, A. B., & Son Co., New York.

VERTICAL PUMPS—See PUMPS.

VOLTMETERS—See ELECTRICAL INSTRUMENTS.

WATER CLOSETS—PUMP WATER CLOSETS—See PLUMBING.

WATER COLUMNS.
Jerguson Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
National Tube Co., Pittsburg, Pa.

WATER GAUGES AND ALARMS.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Jerguson Mfg. Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
Penberthy Injector Co., Detroit, Mich.
Walworth Mfg. Co., Boston, Mass.

WATERTUBE BOILERS—See BOILERS.

WATER VALVES—See VALVES, WATER.

WHARF DROPS.
American Ship Windlass Co., Providence, R. I.

WHISTLES.
American Steam Gauge & Valve Mfg. Co., Boston, Mass.
Ashton Valve Co., Boston, Mass.
Lunkenheimer Co., Cincinnati, Ohio.
Powell Co., The Wm., Cincinnati, Ohio.
Star Brass Mfg. Co., Boston, Mass.
Walworth Mfg. Co., Boston, Mass.

WHITE METAL.
Griscom-Spencer Co., New York.
Lumen Bearing Co., Buffalo, N. Y.
Phosphor Bronze Smelting Co., Philadelphia, Pa.
Reeves, Paul S., & Son, Philadelphia, Pa.

WINDLASSES.
American Ship Windlass Co., Providence, R. I.
Chase Machine Co., Cleveland, Ohio.
Hyde Windlass Co., Bath, Me.
Lidgerwood Mfg. Co., New York.
Williamson Bros. Co., Philadelphia, Pa.

WINCHES—See WINDLASSES.

WIRE ROPE.
American Ship Windlass Co., Providence, R. I.
Phosphor Bronze Smelting Co., Ltd., Philadelphia, Pa.

WOOD SAWS—PNEUMATIC.
Independent Pneumatic Tool Co., Chicago and New York.

WRENCHES—Also see PIPE WRENCHES.
Billings & Spencer Co., The, Hartford, Conn.
Williams & Co., J. H., Brooklyn, N. Y.

YACHTS—See LAUNCHES AND YACHTS; also SHIPBUILDERS.

YELLOW METAL.
Taunton-New Bedford Copper Co., New Bedford, Mass.

ELEPHANT BRAND
DELTA
REG. U. S. PAT. OFF.
THE PHOSPHOR BRONZE SMELTING CO.
2200 WASHINGTON AVENUE, PHILADELPHIA, PA.
ELEPHANT BRAND "Phosphor-Bronze"
INGOTS, CASTINGS, WIRE, SHEETS, RODS, Etc.
—DELTA METAL—
IN BARS FOR FORGING AND FINISHED RODS
ORIGINAL AND SOLE MAKERS IN THE U. S.

Diving Apparatus
Fire Department Supplies
The Morse Monitor Nozzle
ANDREW J. MORSE & SON, INCORPORATED
221 HIGH STREET, BOSTON, MASS.

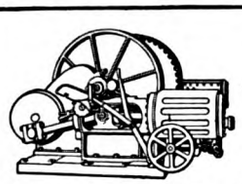
AIR AND GAS COMPRESSORS
THE NORWALK IRON WORKS
SOUTH NORWALK, CONN.

U.S. INFALLIBLE METAL POLISH
It works quickly and easily and keeps its luster. Holds old trade and makes new. It does not deteriorate. Established 16 years.
3-oz. Box for 10 Cents. 5-lb. Pail $1.00. Liquid $1.00 per Gallon.
Sold by Agents and Dealers all over the World. Ask or write for FREE sample.
GEO. W. HOFFMAN, Expert Polish Maker, 295 E. Washington St., Indianapolis, Ind.
BRANCHES: New York City. Chicago, Ill. San Francisco, Cal.

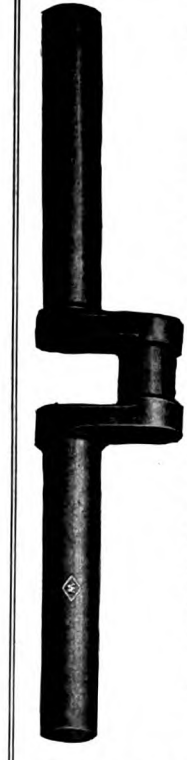
UNITED STATES METALLIC PACKINGS
For Piston Rods and Valve Stems of Main and Auxiliary Engines
THE UNITED STATES METALLIC PACKING COMPANY
PHILADELPHIA AND CHICAGO

T. S. MARVEL SHIPBUILDING CO.
SHIP and ENGINE BUILDERS
NEWBURG, N. Y.

Simplex means quality, the quality that has stood the test, the "customers test," the test that means hard work well done.
SIMPLEX ELECTRIC HEATING CO.
CAMBRIDGE, MASS.
MONADNOCK BLOCK CHICAGO


Steam Capstans
Steam Winches
Docking Engines
Towing Machines
Deck Hoists
For Catalogue Address
The Chase Machine Co. Cleveland, O.

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN



Treatment

Our experience in making crank shafts and other parts which are subjected to severe stress in use has led to the development of various "heat-treatments" calculated to remove such strains as may have been formed in the metal during the rolling or forging processes and at the same time to stiffen and toughen the parts so treated by raising its elastic limit and tensile strength, while retaining a satisfactory elongation and reduction of area.

In stock you will find a popular line of shafts which have had the

"Williams' Care"

Get Cat. E/09 at once. We pay the freight.

J. H. WILLIAMS & CO.
SUPERIOR DROP-FORGINGS
BROOKLYN, N. Y. CITY

INDEX TO ADVERTISERS

	PAGES
ALMY WATER TUBE BOILER CO., Providence, R. I.	17
AMERICAN BLOWER CO., Detroit, Mich.	15
AMERICAN BUREAU OF SHIPPING, New York	46
AMERICAN LINDE REFRIGERATION CO., New York	50
AMERICAN SHIP WINDLASS CO., Providence, R. I.	57
AMERICAN STEAM GAUGE & VALVE MFG. CO., Boston, Mass.	In Front of Magazine, Back of Table of Contents
ANGUS & CO., LTD., GEO., Newcastle-on-Tyne	—
ARMSTRONG CORK CO., Pittsburg, Pa.	50
ASHTON VALVE CO., Boston, Mass.	Inside Front Cover
ATLANTIC WORKS, East Boston, Mass.	38
BABCOCK & WILCOX CO., New York	20
BALDT ANCHOR CO., Chester, Pa.	36
BALTIMORE OAKUM CO., Baltimore, Md.	34
BANTAM ANTI-FRICTION CO., Bantam, Conn.	22
BARBER BROTHERS, Syracuse, N. Y.	36
BATH IRON WORKS, Bath, Maine.	38
BILLINGS & SPENCER CO., Hartford, Conn.	51
BIRD-ARCHER CO., New York	Outside Back Cover
BLAKE & KNOWLES STEAM PUMP WORKS, New York	35
BLOOMSBURG & CO., H., Baltimore, Md.	39
BOSTON & LOCKPORT BLOCK CO., Boston, Mass.	36
BOURSE, THE, Philadelphia, Pa.	22
BRIDGEPORT MOTOR CO., Bridgeport, Conn.	31
BRITISH MANNESMAN TUBE CO., LTD., London	28
BRITISH PETROLEUM CO., London	28
BROWN, JOHN, & CO., New York	17
BROWN & SHARPE MFG. CO., Providence, R. I.	33
BUFFALO GASOLENE MOTOR CO., Buffalo, N. Y.	33
BULL'S METAL AND MELLOID CO., Ltd., Yoker	—
CARLISLE & FINCH CO., Cincinnati, Ohio	52
CEDERVALL & SONER, F. R. Gothenburg Sweden	24
CENTURY ENGINEERING CO., Ogdensburg, N. Y.	54
CHASE MACHINE CO., Cleveland, Ohio.	55
CHRISTIE, W., & CO., Glasgow	—
CINCINNATI PUNCH AND SHEAR CO., Cincinnati, Ohio	—
COIL CLUTCH CO., LTD., Johnstone	—
COLUMBIAN ROPE CO., Auburn and New York	Below Table of Contents, in Front of Magazine
COMPOSITE BOARD CO., New York.	28
CONTINENTAL IRON WORKS, Brooklyn, N. Y.	16
COX & STEVENS, New York	38
CRANDALL, H. I. & SON CO., East Boston, Mass.	35
CRANDALL PACKING CO., Palmyra, N. Y.	19
DAKE ENGINE CO. Grand Haven, Mich.	50
DART MFG. CO., E. M., Providence, R. I.	46
DAVIDSON, M. T., CO., New York	45
DECKER, DELBERT H., Washington, D. C.	34
DE LAVAL STEAM TURBINE CO., Trenton, N. J.	21
DIXON CRUCIBLE CO., JOS., Jersey City, N. J.	9
DONNELLY, W. T., New York	31 and 36
ELECTRIC LAUNCH CO., Bayonne, N. J.	36
EUREKA FIRE HOSE MFG. CO., New York	50
FALLS HOLLOW STAYBOLT CO., Cuyahoga Falls, Ohio	20
FERDINAND & CO., L. W., Boston Mass.	9
FERGUSON & TIMPSON, Glasgow	—
FIAT-SAN GIORGIO, LTD., Fiat-San Giorgio-Spezia, Italy	—
FLETCHER CO., W. & A., Hoboken N. J.	38
FORBES, W. D., MFG. CO., New London, Conn	21
FORE RIVER SHIPBUILDING CO., Quincy, Mass.	38

(Index continued on page 57)

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

FOR

MARINE AUXILIARY MACHINERY

There is but one Standard of Quality

WILLIAMSON BROS. COMPANY

PHILADELPHIA, PA.

AMERICAN SHIP WINDLASS CO.

PROVIDENCE, R. I.

STEERING ENGINES, WINCHES, WINDLASSES, CAPSTANS, ETC.

Send for Complete Catalogues

	PAGES
GAS ENGINE & POWER CO. & CHAS L. SEABURY & CO., Consol., Morris Heights, New York City	48
GENERAL ELECTRIC CO., Schenectady, N. Y.	41
GREEN, HOOK & CO., New York	Editorial Page 505
GRISCOM-SPENCER CO., New York	52
HALIFAX GRAVING DOCK CO., LTD., Halifax, N. S.	28
HALL, J. & E., LTD., Kent	12
HARFIELD & CO., London	26
HASTIE, JOHN, & CO., LTD., Greenock	25
HAYWARD & CO., S. F., New York	30
HEATH & CO., LTD., London	25
HOFFMAN, GEORGE W., Indianapolis, Ind.	55
HOLMES METALLIC PACKING CO., Wilkes-Barre Pa.	30
HYDE WINDLASS CO., Bath, Me.	Inside Front Cover
IDEAL AUTOMATIC MFG. CO., New York	—
INDEPENDENT PNEUMATIC TOOL CO., Chicago and New York	45
JERGUSON MFG. CO., Boston, Mass.	44
JOHNS-MANVILLE CO., H. W., New York	7
KATZENSTEIN & CO., L. New York	18
KEENAN & CO., LTD., MATTHEW, London	28
KINGSFORD FOUNDRY & MACHINE WORKS, Oswego, N. Y.	16
LIDGERWOOD MFG. CO., New York	30
LUMEN BEARING CO., Buffalo, N. Y.	—
LUNKENHEIMER CO., THE, Cincinnati, Ohio	Inside Front Cover
MARINE IRON WORKS, CHICAGO, ILL.	22
MARINE PRODUCER GAS POWER CO., New York	58
MARVEL, T. S., SHIPBUILDING CO., Newburgh, N Y.	55
MARYLAND STEEL CO., Sparrow's Point, Md	38
MASON REGULATOR CO., Boston, Mass.	53
MERRILL-STEVENS CO., Jacksonville, Fla	37
MIETZ, A., New York	31
MILLER & CO., Ltd., Edinburgh	—
MORAN CO., THE, Seattle, Wash.	38
MORRIS MACHINE WORKS, Baldwinsville, N. Y.	21
MORSE, ANDREW J., & SON, INC., Boston, Mass.	55
MORSE TWIST DRILL & MACHINE CO., New Bedford, Mass.	37
MOSHER WATER TUBE BOILER CO., New York	22
MUNRO, JAMES, & CO Glasgow	29
NATIONAL TUBE CO., Pittsburg, Pa.	18
NEWPORT NEWS SHIPBUILDING AND DRY DOCK CO., Newport News, Va.	37
NEW YORK BELTING & PACKING CO., New York	11
NICHOLSON FILE CO., Providence, R. I.	47
NICHOLSON SHIP LOG CO., Cleveland, Ohio	36
NILES-BEMENT-POND CO., New York	38
NORWALK IRON WORKS, South Norwalk, Conn	55
PAGE ENGINEERING CO., Baltimore, Md.	30
PARK & PATERSON, GLASGOW	26
PEACH, H. H., Leicester	24
PEERLESS RUBBER MFG. CO., New York	14
PENBERTHY INJECTOR CO., Detroit, Mich	56
PETERSEN, C. F. CO., Philadelphia, Pa.	Inside Front Cover

(Index continued on page 58.)

Generated on 2024-09-12 07:31 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

MARINE GAS POWER PLANTS

of Loomis-Pettibone System
require

1/2 { ***Fuel***
Bunker Space
Weight
Boiler Room
Labor

of average Marine Steam Plants
of equal power

Consume No Fresh Water

BITUMINOUS or ANTHRACITE
COAL, WOOD or LIGNITE
successfully used without change
in apparatus

MARINE PRODUCER
GAS POWER CO.

2 RECTOR ST. NEW YORK

	PA
PHOSPHOR BRONZE SMELTING CO., Philadelphia, Pa.	55
PITTSBURG PNEUMATIC CO., Canton, Ohio	50
PLYMOUTH CORDAGE CO., North Plymouth, Mass	46
POLE, THOMAS C., Philadelphia, Pa.	37
POWELL, WILLIAM, CO., THE, Cincinnati, Ohio	8
POWER SPECIALTY CO. New York	19
QUINTARD IRON WORKS CO., New York	38
REED, THOMAS & CO., LTD., Sunderland	29
REEVES & SON, PAUL S., Philadelphia, Pa	37
REYNOLDS ICE MACHINE CO., New York ..... Outside Front Cover	
RICHARDS, I. P., Providence, R. I.	—
ROBERTS SAFETY WATER TUBE BOILER CO., Red Bank, N. J.	20
ROELKER, H. B., New York	18
ROWAN, DAVID & CO., Glasgow	—
RUSSELL, BURDSALL & WARD BOLT & NUT CO., Port Chester, N. Y.	39
SANDS & SON CO. A. B., New York	49
SCHUTTE & KOERTING CO., Philadelphia, Pa	35
SCULLY STEEL & IRON CO., Chicago, Ill. In Front of Magazine, back of Table of Contents	
SEAMLESS STEEL BOAT CO., LTD., Wakefield	29
SHELBY STEEL TUBE CO., Pittsburg. (See National Tube Co.)	—
SHERIFFS MANUFACTURING CO., Milwaukee, Wis.	33
SIMPLEX ELECTRIC HEATING CO., Cambridgeport, Mass	55
SIROCCO ENGINEERING CO. (See AMERICAN BLOWER CO.) Detroit, Mich.	15
SISSON, W., & CO., Gloucester	—
SMITH, L. C. & BROS., Syracuse, N. Y.	16
SMOOTH-ON MFG. CO., Jersey City, N. J.	27
SOTHERN J. W., London	26
STANDARD MOTOR CONSTRUCTION CO., Jersey City, N. J.	31
STANDARD PISTON RING & ENGINEERING CO., Sheffield	—
STAR BRASS MFG. CO., Boston, Mass.	17
STARRETT CO., L. S., Athol, Mass.	8
STOW FLEXIBLE SHAFT CO., Philadelphia, Pa.	45
STOW MANUFACTURING CO., Binghamton, N. Y.	31
STURTEVANT CO., B. F., Hyde Park, Mass	10
TASKER & STRAWBRIDGE, Philadelphia, Pa.	34
TAUNTON-NEW BEDFORD COPPER CO., New Bedford, Mass.	44
TAYLOR WATER TUBE BOILER CO., Detroit, Mich.	19
TERRY STEAM TURBINE COMPANY, Hartford, Conn.	42
TIETJEN & LANG DRY DOCK CO., Hoboken, N. J.	34
TOLEDO SHIPBUILDING CO., Toledo, Ohio	39
TROUT, H. G., CO., Buffalo, N. Y.	33
TRUSCOTT BOAT MANUFACTURING CO., St. Joseph, Mich.	32
UNITED STATES METALLIC PACKING CO., Philadelphia, Pa.	55
WALWORTH MFG. CO., Boston, Mass.	53
WATSON-STILLMAN CO., New York	51
WELIN AXEL, London	24
WELIN DAVIT AND LANE & DE GROOT CO., New York, Inside Back Cover	
WESTON ELECTRICAL INSTRUMENT CO., Waverly Park, Newark, N. J.	43
WHEELER, C. H. MFG. CO., Philadelphia, Pa.	34
WHEELER CONDENSER & ENGINEERING CO., Carteret, N. J.	36
WHITTELSEY & WHITELSEY, New York	36
WILLIAMS & CO., J. H., Brooklyn, N. Y.	56
WILLIAMSON BROS. CO., Philadelphia, Pa.	57
WILLCOCK, REID & CO. Ltd., Glasgow	23

Generated on 2024-09-12 07:35 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

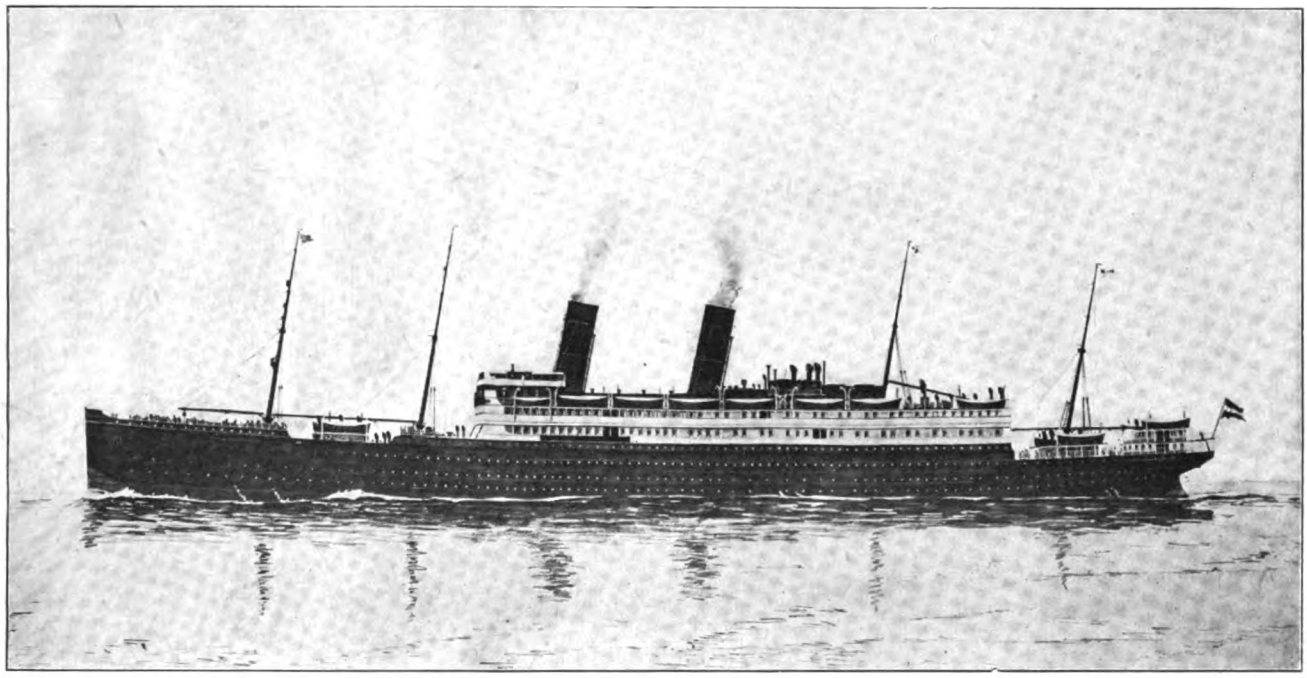
WELIN DAVIT AND LANE & DE GROOT CO.

CONSOLIDATED

Successors to Welin Quadrant Davit, Inc., and Lane & De Groot Co.

*The **Welin Quadrant Davit** is the only Gear which can be **relied upon** to handle a boat satisfactorily under all circumstances. These Davits are manufactured in **20 distinct types** and sizes. They will handle anything from a 10 ft. Dinghy to a 2nd class Torpedo Boat.*

Over 2700 sets fitted or on order.



*North German Lloyd's S. S. **"George Washington,"** equipped with Welin Quadrant Davits.*

*Manufacturers of the **Lane & De Groot Life Boats and Life Rafts** which are the standard of quality.*

Also builders of wooden boats, wooden and steel launches of every description.

Repairing promptly attended to.

*Our **A-B-C Life Preserver** is more compact, buoyant, durable, economical and gives greater satisfaction than any other Life-Belt on the market.*

Boat Releasing Gears, Log Registers and other Marine Specialties carried in stock.

ALL OUR APPLIANCES APPROVED BY THE U. S. INSPECTORS.

For particulars apply to A. P. LUNDIN, General Manager

No. 17 Battery Place, New York *Telephone, Rector 2035-2036*

Generated on 2024-09-12 07:35 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

DON'T WORRY ABOUT BAD FEED WATER

The presence of feed water impurities need not and should not increase materially the work and expense of boiler upkeep, nor decrease the life and efficiency of the boiler. This is always true whether the objectionable impurities are corrosive or scale forming elements in the original water supply, or suspended oil and grease particles from the condensation. In the case of internal corrosion in any form, some neutralizing element ***must*** be applied as the water enters the boiler. The similar addition of a scale and deposit preventative means no real work, but it does mean a big saving of both time and labor over the mechanical cleaning methods that would otherwise become necessary.

BIRD=ARCHER MARINE METALLIC BOILER COMPOUNDS

completely overcome the scale and corrosion troubles by the simplest process. Aside from their trifling cost of 1¼ cents per hundred horse-power per hour, there is no expense attached to their use save for feeding the compound and blowing out the sludge which it forms—two operations which take only a few minutes each day. The use of Bird-Archer Compounds is an inexpensive and effective boiler protection, the one sure way to eliminate a most disturbing influence on any vessel. You can be assured from our broad guarantees that the compound will make good. If a six months' trial does not convince you that the compound method and Bird-Archer products meet every claim, we will refund your money.

Our book, "Marine Boiler Deterioration," explains these matters in detail. Shall we send a copy?

THE BIRD-ARCHER CO., 90 WEST STREET, NEW YORK

BRANCH OFFICES

PITTSBURG, 506 Fulton Building
NORFOLK, VA., 22 Campbell's Wharf
NEW ORLEANS, LA., 3215 Canal Street
BALTIMORE, 907 S. Broadway
CHICAGO, ILL., 171 Washington Street
SAN FRANCISCO, CAL., 112 Market Street
BOSTON, MASS., 7 Water Street
HAVANA, CUBA, Apartado 95
PHILADELPHIA, PA., 119 South Fourth St.
CLEVELAND, O., 403 Cleveland Arcade
LONDON, ENGLAND, Billiter Building, E. C.
J. P. LYNCH, Suite 42, Young's Hotel, Honolulu, Hawaii

AGENCIES

HYMAN SUPPLY CO., Newbern, N. C.
KAMINSKI HARDWARE CO., Georgetown, S. C.
COLSON HARDWARE CO., Brunswick, Ga.
WM. CURRY'S SONS, Key West, Fla.
RAYMOND HODGSON, Port Tampa, Fla.
W. A. CORDER CO., Seattle, Wash.
HYMAN SUPPLY CO., Wilmington, N. C.
THE PAULSON CO., Savannah, Ga.
McKENZIE, OERTING & CO., Pensacola, Fla.
ALABAMA IRON WORKS, Mobile, Ala.
T. D. LANIGAN, c/o Consumers' Coal Co., Charleston, S. C.
GUILDFORD & SONS, Halifax, N. S.
LAMBERT SPRINGER CO., 99 Plaza Santa Cruz, Manila.
T. M. LAFLIN, Exchange Market, Yokohama.
UNITED ASBESTOS ORIENTAL AGENCY, Ltd., Hong Kong, Shanghai, Singapore.
R. KELLEY, cars Gonzalez, Rubio & Co. Guayaquil, Ecuador
JOSE MUIR AYET, Barcelona, Spain

Generated on 2024-09-12 07:30 GMT / https://hdl.handle.net/2027/mdp.39015080009809
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN